ARBITRAGE

IN

BULLION, COINS, BILLS, STOCKS, SHARES, AND OPTIONS,

CONTAINING

A SUMMARY OF THE RELATIONS BETWEEN THE LONDON MONEY MARKET AND THE OTHER MONEY MARKETS OF THE WORLD.

BY

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PREFACE.

THE literature on the subject of the present book is remarkably meagre. We look practically in vain for any book in any language treating of the highly-important and likewise interesting subject of the transfer of money from one nation to another. The fact is all the more astonishing, as Arbitrage is of the greatest importance to the commerce of the world—see the paragraph "Introductory Remarks"—and as international trade has developed so enormously through the ever-increasing facilities of communication between the most distant business centres.

A few books on mercantile Arbitrage, published in Germany some 30 or 40 years ago, are now antiquated, and therefore of little or no value.

Goschen's "Theory of Foreign Exchanges" (dated 1866) treats the subject from a philosophical point of view, but without entering into any practical details; and two other books, the best known of their kind—**Tate's** "Modern Cambist," and **Haupt's** "Arbitrages et Parités"—were last edited in 1893, and since then the following changes have taken place:

(1) The currency of India, Russia, Japan, Austria-Hungary, Chile and Costa Rica has been reformed.

(2) The British dollar, and some foreign coins of a new type have been struck, and put into circulation.

(3) The Paris Stock and Share Market has been reorganised.

(4) The South African Mining Shares, introduced since 1894 on the Paris Market, have become the principal articles for Arbitrage-dealings between the Paris Bourse and the London Stock Exchange.

(5) The creation of the 4% Spanish "Sealed" Bonds has done away with the Arbitrage in Exterior Bonds with the Madrid Bourse.

(6) The silver quotation on the Paris Market, formerly given in per cent. discount against the basis of fr. 218.89, is now expressed in francs per kilogramme.

(7) The stamp duty on the Continental Bourses has been raised.

During the last eleven years not a single publication has appeared on the book-market of the world touching on the subject of the present work, which proposes to fill the gap in a concise but nevertheless exhaustive manner.

It treats likewise of the relations between the New York Money Market and the Money Markets in the East, as the trade between the United States and Asia has grown beyond expectation during the last decade.

The book deals with the various branches of the Arbitrage—I. Arbitrage in Bullion and Coins. II. Arbitrage in Bills of Exchange. III. Stock and Share Arbitrage, and IV. Arbitrage in Options—in separate chapters, and any section can therefore be used for instant reference.

The Author has taken the greatest pains to render the work intelligible, and to bring it up-to-date. His long experience as Arbitrager on the various Bourses has enabled him to lay particular stress on the practical part, and he therefore hopes that it will acquire numerous friends amongst Bankers, Stock Exchange men, Economists and Financiers of all nations; and will likewise be found useful by Capitalists generally, even those having but slight business relations beyond their own country.

H. D.

London, *April*, 1904.

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INTRODUCTORY REMARKS.

THE "**Arbitrage**" compares prices of articles of merchandise dealt in on various markets in order to find out their differences.

The word "Arbitrage" is French, derived from the verb "arbitrer," which means to judge or estimate; the person calculating the Arbitrage is called "Arbitrager," or "Arbitrageur," or "Arbitragist."

We may compare the prices of any article, whether expressed in English money or foreign money.

Take for instance the article coffee. We may compare the price of a ton of best Brazil coffee in London with the price of the same quantity and quality coffee in Liverpool; or the London price of the said quantity with its New York price; or we may find out the lowest and highest price of the said coffee in London, Liverpool, Havre, Rio de Janeiro, New York and other markets at the same time.

If we have found, for instance, that there is a considerable **difference**—also called "**margin**"—between the prices of London and Havre, and London is the cheaper market of the two, it would be profitable to buy in London and to sell in Havre. In consequence of these transactions the price of coffee in London would rise—because of our purchases—and in Havre go lower because of our sales, and ultimately the price of coffee in London and Havre will show very little difference, and might become equal.

The Arbitrage, therefore, equalises the prices. It can supply a demand in one market from the stock of another.

For instance, high wheat prices in one market will induce shipments from other markets with lower prices, and Arbitrage can therefore prevent exorbitant rates. This example will suffice to show the importance of Arbitrage for the commerce of the world.

In the general sense of the term, we can therefore speak of Arbitrage in wholesale Commodities, in Freights, in Bullion, Coins, Bills of Exchange, and Stocks and Shares. But usually it is only applied to the comparison of prices of the last-named articles, lying in the line of Bankers and Financiers, and means especially the examination of the relations between the moneys of the different nations (**"Foreign Exchanges"**).

These **"Foreign Exchanges"** express the rates at which payments from one nation to another are to be effected.

The comparison of two prices when both are expressed in English money is simple enough—a mere subtraction gives the difference. One of the prices which is taken as a basis for the calculation is also called the **"parity price"** or, shortly, **"parity."**

But when one of the prices is expressed in foreign money, and the quotation given for different quantities, the Arbitrager must be acquainted with the exact value of the foreign money, and the practice of the foreign market. Thorough knowledge of all the usages, and quickness at figures in order to work out rapidly the difference in the prices (**"margins"**) are therefore essential qualifications for a capable Arbitrager.

CURRENCY.

THE Mint in ancient Rome was situated near the temple of the goddess Juno Moneta, and "Moneta" became accordingly synonymous with mint and coins, hence the word "money."

Money as a medium of exchange can be represented by coins of metal (metallic money) or notes (fiduciary money), and the currency of a country can consequently be based on:

(*a*) Gold
(*b*) Silver
(*c*) Gold and Silver
(*d*) Paper.

Where the currency is **based on gold,** all payments must be effected in the legal gold coins of the land. Coins minted in any other metal can only be legal tender up to a very small amount, as for instance in England, where silver coins are legal tender up to 40 shillings, and bronze coins up to 1 shilling only. Silver itself is an article of merchandise, like copper, iron, tin, etc.

In countries with **silver currency,** the legal tender consists of legally-minted silver coins, gold is there a commercial article with fluctuating prices.

Notes in countries with a metallic currency are therefore nothing more than substitutes for the metal itself, they are only used to facilitate commerce. They must therefore be exchangeable (convertible) into metal at any moment for the amount of their face value.

But when the currency is based on precious metals **and** notes, and the latter are far in excess of the former, the notes are naturally non-convertible. They pass from hand to hand for the sums expressed on them, and are quite suitable means for discharging payments at home. But with regard to payments abroad, they lose their qualification as account-settlers for the full value stated on them. The rate at which they will be taken by other nations will depend upon the quantity of metal and the nature of the other securities (if any) deposited for them as cover. Metal in such countries will command **premium** against notes, such premium also called "**agio.**"

In countries with a **gold and silver currency** ("double" or "bimetallic" standard), gold coins and silver coins represent concurrently the legal tender; and as long as the other nations are convinced that silver coins can be exchanged at any moment for their equivalent in gold, they will accept the silver coins at the full value expressed on them, even if their intrinsic silver value should be less than their circulation value (*e.g.*, the French 5-franc piece, United States silver dollar).

There has long been a controversy as to whether the double standard should not be adopted by all nations, with a fixed ratio between gold and silver, but the bimetallic currency has very little chance of being generally introduced, on account of the ever-increasing output of silver, and its falling price in consequence, and because of the opposition of the nations which have placed their currency on a gold basis.

In 1865 the "Union monétaire latine" was formed. Belgium—France—Italy—Switzerland and Greece (in 1868) agreed that their coins (gold and silver) should pass concurrently in their respective countries. The continuous fall in the price of silver told against that convention,

which was in consequence several times on the point of being abrogated.

France and the other members of the "Union" (with the exception of Greece), **Germany** and **Holland, have theoretically a double standard, but practically a gold standard, as the coinage of silver* in all these countries has been suspended.**

But that gold standard remains behind the pure gold standard of England, Scandinavia or Austria-Hungary, in which countries silver coins are legal tender only for a very small amount.

The "Union latine," with France as leading member, uses as legal tender the silver coin of francs 5, of which about 1,000,000,000 pieces are in circulation, while Germany has declared as legal tender about 150,000,000 silver "thaler" pieces (3 marks each).

This peculiar "gold standard," a partly double standard, also called "limping standard" ("étalon boiteux") might become a source of embarrassment in case the trade balances of these nations should turn unfavourable. But up till now nothing of the kind has happened in these countries, and all their foreign payments have been effected precisely as if every one of them had adopted a pure gold standard.

Greece has virtually a paper currency.

Russia and **several** of the **South American States** have **legally a gold standard,** but **in reality a paper currency.**

The following list takes these changes into consideration:

(*a*) **Countries with gold currency are:**

South Africa—West Africa—Australia with Tasmania and New Zealand—Austria-Hungary—Belgium—

* Only small silver coins continue to be issued.

Bulgaria—Canada—Costa Rica—Denmark—Dutch East Indies—Egypt—France—Germany—Great Britain—Japan—Italy—Netherlands—Norway and Sweden—Roumania—Switzerland—Tunis and Uruguay.

(*b*) **Countries with silver currency are:**

Bolivia—Borneo—Ceylon—China—Honduras—Hong-Kong—Korea—Labuan—Mauritius—Mexico—Morocco—Nicaragua—Persia—Peru—Salvador—Siam—Straits Settlements and Tripoli.

(*c*) **Countries with gold and silver standard are:**

India—Servia—United States—Venezuela and West Indies.

(*d*) **Countries with paper currency are:**

Argentina—Brazil—Chile—Colombia—Ecuador—Greece—Guatemala—Hayti—Liberia—Paraguay—Portugal—Russia—Spain and Turkey.

Countries without any currency are:

Abyssinia, and independent Africa (territory not in possession of a European power) where commerce is carried on by exchange of cotton, glass pearls, salt, cowries, brass wires and Maria Theresa thaler (see page 51).

I. ARBITRAGE IN BULLION AND COINS.

ERRATA.

On page 61, line 16, read :

"preceding," instead of "following."

On page 157, line 21, read the last numerator :

"782.5," instead of "78.25."

On page 157, line 24, read :

"by dividing ten times the price," instead of "by dividing the price."

A. GOLD.

THE majority of "the most advanced and energetic nations" have placed their currency on a gold basis, that is, have accepted a gold standard.

The basis of the

ENGLISH CURRENCY

is the pound sterling, divided into 20 shillings of 12d. each = 240 pence.

The quantity of gold which represented the pound sterling has been changed several times in the past. In the days of Edward III. (1334) when the first gold coins* were used, 1 pound of standard gold, which was then nearly $\frac{995}{1000}$ fine (995 parts of gold and 5 parts of alloy) was valued at £15. Later on, the number of pounds sterling minted from one pound of gold increased, until it was fixed in 1718 at the present standard, according to which: **1 pound of standard gold has to be coined into $46\frac{29}{40}$ sovereigns, or 1,869 sovereigns from 40 pounds Troy.**

The gold-standard (fineness of gold) has also undergone different changes, until it was fixed in the reign of Henry VIII. (1509-1547). This standard, which is still in force, prescribes that all gold coins must contain:

22 carats pure gold and 2 carats of alloy—out of a mixture weighing 24 carats –,

and is therefore equal to a fineness of

$$\frac{22}{24} = \frac{11}{12} = \frac{11}{12} \times 83\frac{1}{3} = \frac{916\frac{2}{3}}{1000}.$$

* The Noble.

Gold and silver are weighed by the Troy weight, and the Troy ounce must not be confused with the ounce of ordinary retail business.

175 pounds Troy equal 144 pounds Avoirdupois; the pound Troy is divided into 12 ounces Troy. 1 oz. = 20 pennyweights, 1 dwt. = 24 grains, so that 1 pound Troy = 5,760 grains, while the usual pound (Avoirdupois) contains 7,000 grains.

As 40 pounds Troy = 480 oz. Troy = £1,869 = 37,380s.;
1 oz. = $\frac{37,380}{480}$ = 77.875s. = 77s. 10½d.

The fixed Mint price of gold is therefore 77s. 10½d. per ounce Troy.

The weight of 1 sovereign is $\frac{40 \times 5760 \text{ grains}}{1869}$ = 123.27447 grains, and the least current weight still considered as legal tender, 122.50000 do., therefore difference 0.77447 grains, or about $\frac{5}{8}$%, which difference explains why new sovereigns in New York are valued 1 cent higher than old ones.

The weight of 1,000 sovereigns is therefore 256.822 oz., and the legal tender limit of 1,000 sovereigns is 255.208 oz., but the Bank of England rarely delivers 1,000 sovereigns with a less weight than 256.20 oz., or with a difference of ¼%.

Light gold coins are received by the Bank of England on behalf of the Mint at their full nominal value.

As 1 oz. = 31.1 grammes, the **legal weight** of **1,000 sovereigns is** 256.822 oz. × 31.1 = 7,988 grammes, or **kilog. 7.988**, and they contain:
7.988 × $\frac{11}{12}$ = **kilog. 7.3223 pure gold.**

Notwithstanding that the greatest care is taken in the minting of coins, it is almost impossible to get either the exact weight of pure metal, or the full weight prescribed by law quite accurately. In order to cover any difference,

the Mints are allowed a certain weight, called "**remedy**" (in France "tolérance"), which is expressed in thousandths.

Continental Mints are generally permitted a remedy of:

$2°/_{00}$ for the full weight and
$1°/_{00}$ „ pure weigh } of gold coins,

and from 2 to $3°/_{00}$ for the pure weight and
„ 3 „ $10°/_{00}$ „ full weight } of silver coins.

Nearly all the gold and silver shipped to Europe passes through London, which has become in consequence the chief bullion market of the world.

The Bank of England practically controls and regulates it by its rate of discount. Too heavy withdrawals of gold from the Bank are immediately checked by raising that rate, as a higher rate means deduction of a larger amount for discount, thereby diminishing the cash value of the bills.

The English Mint makes **no charges** for coinage, but delivers the coins only a fortnight after receipt of the gold, whilst the Bank of England pays for its gold purchases immediately at 77s. 9d. per oz.

The standard ounce contains gold of a fineness of $\frac{11}{12}$ and its value is fixed at 77s. $10\frac{1}{2}$d. (or in decimals 77.875); the ounce of **pure** gold (gold without any alloy is considered as the unit $= \frac{1000}{1000}$ fine) would therefore cost $\frac{1}{11}$ more $(\frac{11}{12} + \frac{1}{12})$ = **84.95s.** = 84s. $11\frac{1}{2}$d., or very near 85s.

If we compare therefore the price of 1 oz. of pure gold in England with the price of 1 oz. of pure gold in other countries, we arrive at the Mint parity price of the various foreign coins.

We prefer, however, to take the kilogramme—1,000 grammes—as weight basis, and to compare the price of 1 kilogramme of pure gold in England with the price of 1 kilog. pure gold abroad, as the weight of nearly all foreign coins is expressed in grammes.

The actual rate—the "exchange"—might not be exactly that Mint parity price, as it depends upon the state of the imports and exports of the country. Sometimes the foreign country finds itself by its trade a debtor, sometimes a creditor, of England. However, the Mint parity price can regulate the price of the foreign money through gold shipments.

To simplify calculations which will appear further on, we will find out the value of 1 kilog. gold; first the value of 1 kilog. standard gold, and then the value of 1 kilog. pure gold.

We have the following equations:

Sovereigns	x	=	1 kilog. standard gold.
Kilog.	1	=	2.204621 lb. Avoirdupois.
lb. Avoirdp.	144	=	175 lb. Troy.
lb. Troy	40	=	1,869 sovereigns;

and find $x = 125.1869$. We note therefore:

(1)...**1 kilog. standard gold = £125.1869 = 2503.74s.**

and 1 kilog. pure gold = £125.1869

plus $\frac{1}{11}$ = 11.3806

£136.5675

(2)...**1 kilog. pure gold = £136.5675 = 2731.35s.**

1 gramme of standard gold is therefore equal to 2.50374s., and

1 gramme of pure gold to 2.73135s.

We will now examine the money of the various countries:

(A) FRANCE.

(1 franc = 100 centimes).

The French Mint buys 1 kilog. gold $\frac{900}{1000}$ fine at the fixed price of **fr. 3,100**, which price makes the value of

1 kilog. pure ($\frac{1000}{1000}$) gold = 3100 + $\frac{3100}{9}$ = fr. 3444.444, and we arrive at the equation:

fr. 3444.44 = £136.5675
or **fr. 25.22 = £1**
and **fr. 1 = 9½d.**

As the price of 1 kilog. (1,000 grammes) gold $\frac{900}{1000}$ fine is fixed at fr. 3,100, the 20-franc piece must (as 3100 = 20 × 155) contain $\frac{1000}{155}$ grammes = 6.45161 grammes of gold $\frac{900}{1000}$ fine.

The parity of £1 = fr. 25.22 is the **theoretical** Mint parity, but it does not take into consideration the charges of the French Mint for exchanging gold, nor the tariff fixed for the purchase of foreign coins. When we consider these items, we shall find the **practical** Mint parity, which for the English sovereign will lead to the following result:

The French Mint charges fr. 6.70 expenses for 1 kilog. gold, that brings the price of 1 kilog. $\frac{900}{1000}$ fine gold down to fr. 3093.30, and the price of 1 kilog. pure gold to fr. 3093.30 + $\frac{3093.30}{9}$ = **fr. 3,437.** The English sovereign which is minted $\frac{916\frac{1}{2}}{1000}$ fine, is taken by the French Mint as only $\frac{916}{1000}$ fine, and 1,000 sovereigns would according to the tariff of the French Mint contain only (see page 18) kilog. 7.988 × $\frac{916}{1000}$ = kilog. 7.317 pure gold at fr. 3,437 = fr. 25148.53, or

1 sovereign = fr. 25.15.

The practical Mint parity of the sovereign therefore is fr. 25.15.

The Banque de France buys likewise gold at the price of fr. 3,437 for 1 kilog. pure gold, and pays immediately for its purchases, while the Mint pays only after the examination of the gold (after 6—8 days according to its quantity) with a "bon de monnaie"—draft on the

Treasury—**which however does not authorize a payment of gold exclusively.**

In the open market in Paris, pure gold can sometimes be sold at a higher price than the above-mentioned price of fr. 3,437.

In case gold should be shipped to France, the expenses of freight, insurance, interest on the money concerned, brokerages for the sale of gold and the purchase of the remittance, would have to be taken into consideration, and as these amount to about $\frac{7}{16}\%$, the parity would be 25.22 less $\frac{7}{16}\% = 25.22 - (25.22 \times \frac{7}{16}\%) = 25.22 - \frac{11}{100} = \mathbf{25.11}$.

In case gold should be shipped from Paris to London, the expenses would be the same, and the parity then $25.22 + \frac{11}{100} = \mathbf{25.33}$.

The two prices **25.11** and **25.33** consequently indicate the limits (also called "**gold points**") beyond which gold shipments between London and Paris would commence to pay.

The appearance, fineness, and weight of the gold coins issued by France, Belgium, Italy, Switzerland and Greece—which countries form the "Union latine"—are identical.

The gold coins of Bulgaria, Roumania, Servia and Spain—which countries have adopted the monetary system of the "Union latine" without joining it—circulate in France as equals of the corresponding French coins.

(B) GERMANY.

(1 mark = 100 pfennige.)

The German Mint coins 1 kilog. **pure** gold into
139½ twenty-mark pieces
or 279 ten „ „

1 Kilog. pure gold in Germany therefore equals marks 2,790, and we have, as before, the equation

marks 2,790 = £136.5675

or **marks 20.43 = £1.**

mark 1 = 11¾d.

The German Mint charges 6 marks for coining 1 kilog. gold.

The gold points for gold shipments from London to Berlin would be the cheque price of 20.43, less about 0.12 expenses = **20.31**, and for gold shipments from Berlin to London the cheque price of **20.55.**

As the German gold coins are minted $\frac{900}{1000}$ fine, and 1 kilog. **pure** gold can be transformed into 1111.111 grammes of gold $\frac{900}{1000}$ fine, 2,790 marks or 139½ twenty-mark pieces must weigh 1111.11 grammes, or 1 twenty-mark piece $\frac{1111.11}{139.5}$ = 7.965 grammes.

(c) UNITED STATES.

(1 dollar = 100 cents.)

All the coined money is $\frac{900}{1000}$ fine; the weight of $1 in gold is 1.6718 grammes = 25.8 grains, consequently 1,000 half-eagle pieces ($5) weigh kilog. 8.359. They contain 8.359 × $\frac{9}{10}$ = kilog. 7.523 pure gold at £136.5675 = 20,548s., therefore the equation:

$5,000 = 20,548s.

or **$4.8666 = £1.**

$1 = 4s. 1.316d.

As the expenses for gold shipments from London to New York amount to ¼% = 0.037 cents, the gold points would therefore be the cable transfer prices: **4.83** resp. **4.90**; at the former, gold will be sent from London to New York; at the latter, from New York to London.

The Mint charges 4°/₀₀ for pure, and 1°/₀₀ for $\frac{900}{1000}$ fine gold bars, and buys the gold at the fixed price of $800 for 43oz. $\frac{900}{1000}$ fine, paying for it a few days after the purchase.

(D) AUSTRIA-HUNGARY.

(1 krone = 100 heller.)

1 kilog. pure gold is coined into 3,280 kronen $\frac{900}{1000}$ fine; therefore the equation

kronen 3,280 = £136.5675
or **kronen 24.02 = £1**
krone 1 = 10d.

As in the foregoing paragraph, "Germany," we have 1 kilog. pure gold = 1111.11 grammes of gold $\frac{900}{1000}$ fine = 3,280 kronen = 164 pieces of 20 kronen, or the weight of 1 twenty-kronen piece = $\frac{1111.11 \text{ grammes}}{164}$ = 6.775 gr.

The purest gold coin in the world is the **Austrian ducat,** which deserves mention on that account. It is coined 986½ fine, containing only 13⅝ alloy, and 3.4424 grammes fine gold, which at 2.7313s. the gramme would make the English par 9.4s., and the Austrian par kronen 11.29. It does not circulate in the Empire, and is merely issued to help the commerce in the East.

Prior to the introduction of the new gold standard, Austria-Hungary had a mixed currency, based on silver and paper. There were also gold coins issued, commanding always a premium against the currency money. They were rarely seen in the Empire, and circulated mostly abroad. The weight of the old "8-florins piece," which was made legal tender for gold florins 8.10, was grammes 6.45, and its fineness $\frac{900}{1000}$, it represented consequently the French 20-franc piece, and circulated as such in France. This coin, containing grammes 5.806 pure gold, made the price of 1 kilog. pure gold equal to gold florins 1395*, accord-

* As 1 kilog. pure silver was then coined into 90 florins, the old French ratio between gold and silver of 15½ : 1 (1395 : 90), and a double standard, were thereby established.

ing to $\frac{8.1 \times 1000}{5.806}$, and as kilog. 1 pure gold in the new currency is taken as kronen 3,280, we arrive at the equation:

Old gold florins 1395 = kronen 3,280, or
Gold florin 1 = „ 2.35, or as

2 kronen were fixed equal to florin 1 of the old currency, we may read the equation also:

Gold florin 1 = old currency florins 1.175 or
Gold florins 100 = „ „ florins 117.5,

which shows a premium on gold of 17½% against the old currency.

The Government therefore perpetuated by the new standard a gold premium of 17½%, which was really paid for years. For the purpose of converting gold florins into the new currency—as such was necessary for the carrying out of contracts stipulated in gold florins—the Government declared gold florins 42 equal to kronen 100, thereby fixing the gold florin equal to kronen 2.38, instead of 2.35. These two prices show accordingly a difference of more than 1%, which is in favour of the payee of contracts.

Only amounts up to kronen 50 in silver are legal tender. As gold points may be taken the cheque-prices **23.875** and **24.175**; at the former, gold may be transferred from London to Vienna, and at the latter, from Vienna to London.

The Mint charges 3‰ for coining.

(E) RUSSIA.

(1 rouble = 100 kopecks.)

The value of the "New Imperial" is fixed at 15 roubles. It contains grammes 11.612 pure gold, coined $\frac{900}{1000}$ fine, at 2.7313s. the gramme = 31.7164s. or

1 rouble = 2.1144s. = $25\frac{3}{8}$d. = 2s. $1\frac{3}{8}$d.
or **roubles 94.60 = £10**
roubles 9.46 = £1

The weight and fineness of the "Imperial" has undergone several changes during the last few decades. It contained originally 13.088 grammes $\frac{916\frac{2}{3}}{1000}$ fine gold, then 12.902 grammes pure gold, coined $\frac{900}{1000}$ fine (the half of the latter being consequently exactly like the French 20-franc piece), and it represented 10 roubles in gold, which commanded a very high and sometimes wildly fluctuating premium against the rouble in paper, then also called "Credit rouble" (rouble based on the Credit of the Russian Government). The par-value of the gold rouble of former years being 38.05d.—6.451 grammes $\frac{900}{1000}$ fine = 5.8059 grammes pure gold at 2.7313s. = 15.856s. for 5 roubles, or 1 rouble = 38.05d.—showed at times as much as 73% premium against the paper rouble, as the latter was obtainable at 22d., making 100 gold roubles equal to 173 paper roubles.

During the last 20 years, gold maintained a premium of 50%, that is 100 gold roubles were equal to 150 paper roubles.

In order to find a way out of that deplorable chaos, and to put the currency on a solid basis, the Government adopted the present standard, which makes the value of the gold rouble and paper rouble perfectly equal. It was therefore necessary to lower the value of the old gold rouble, and to raise the value of the old paper rouble. The value of the old "Imperial" which was formerly fixed at 10 roubles, was declared equal to 15 roubles, and the old half-Imperial, up till then representing 5 roubles, to be worth 7½ roubles. By that declaration, changing the value of the rouble, making

10 old gold roubles = 15 new roubles
or 100 „ „ „ = 150 „ „ „

the Government perpetuated the former premium of 50% on gold. The old half-Imperial—5-rouble piece—minted

after the model of the French 20-franc piece, is now valued at roubles 7½, making thereby **roubles 7½ = fr. 20** or

rouble 1 = fr. 2.666.

FINLAND.

(1 markka = 100 penni.)

This Russian Province has its own currency.

1 kilog. $\frac{900}{1000}$ fine gold is coined into 3,100 markkaa in 20—and 10—markkaa pieces, which have accordingly exactly the value of the French 20 and 10-franc pieces, and therefore **markkaa 25.22 = £1**

markka 1 = 9½d.

(F) NETHERLANDS.

(1 guilder = florin = 100 cents.)

1 kilog. pure gold is coined into florins 1653.44, therefore the equation:

florins 1653.44 = £136.5675

or florins **12.107 = £1**

florin **1** = **19.82d.** or nearly **1s. 8d.**

As the Dutch Mint charges 3¼‰ for coinage, the practical parity comes to 12.107 less 0.039 = 12.07, and the gold points for shipments of gold from London to Amsterdam would be the cheque price **12.01**, and for gold shipments from Amsterdam to London the cheque price **12.17.**

As the Dutch gold coins are minted $\frac{900}{1000}$ fine, and 1 kilog. pure gold corresponds with 1111.11 gr. gold $\frac{900}{1000}$ fine, we have the weight of florins 1,653.44, or 165.344

ten-florin pieces = 1111.11 grammes, or 1 ten-florin piece = 6.72 gr.

The "**ducat**" and "**double ducat**" are still minted. The ducat weighs 3.494 grammes, and as it is $\frac{983}{1000}$ **fine**, it contains 3.4346 gr. pure gold which, at florins 1.653 the gramme, makes the Dutch par florins 5.67, and the English par, at 2.7313s. the gramme, 9.38s.

Formerly the florin was divided into 20 stuivers, making the stuiver equal to 5 cents, which we mention as the Amsterdam rate of exchange in London is still expressed in florins and stuivers.

(G) SCANDINAVIA.

(DENMARK, SWEDEN AND NORWAY.)

(1 krone = 100 ore.)

According to the monetary convention of these three countries, 1 kilog. pure gold is coined into 2,480 kronen, therefore the equation:

kronen 2,480 = £136.5675 = 2731.35s.
or **kronen 18.16 = £1**
krone 1 = 1s. 1¼d.

Another way of finding that parity would be the comparison of Scandinavian money with German money. As in Germany 1 kilog. pure gold is coined into 2,790 marks, and in Scandinavia into 2,480 kronen, we have the equation:

marks 2,790 = kronen 2,480, or divided by 31.
„ 9 = „ 8
„ 1⅛ = krone 1

As we found the parity of mark 1 = 11⅞d. (see page 23), therefore 1 krone = $11.75 + \frac{11.75}{8}$ = 11.75 + 1.47d. = 13.22d. = 1s. 1¼d.

As gold points may be taken the cheque prices **18.06** and **18.26.**

Only amounts below 20 kronen in silver are legal tender.

(H) JAPAN.

(1 yen = 100 sen = 1,000 rin.)

According to the new gold standard, introduced in 1897, 1,000 yens contain 750 grammes pure gold, or

1 yen = $\frac{750}{1000} = \frac{3}{4}$ gramme pure gold,
which at 2.73135s. the gramme,
makes the value of

1 yen = 2.048s. = **2s. $0\frac{9}{16}$d.**

£1 = 9.765 yens.

The gold coins are minted $\frac{900}{1000}$ fine, and the weight of the 10-yen piece must accordingly be:

$\frac{3}{4} \times 10 \times \frac{10}{9} = \frac{300}{36} = \frac{100}{12} = 8.3333$ grammes.

The former 10-yen piece (before 1897) contained just twice as much **pure** gold (15 grammes) as the present one ($7\frac{1}{2}$ grammes).

The reason which led the Japanese Government to that radical reform of the currency was the following:

Concurrently with the issue of gold coins, Japan minted silver yens of the weight of 416 grains $\frac{900}{1000}$ fine. Each silver yen contained therefore 374.4 grains (= 24.26 grammes) pure silver.

1 gold yen of the former type contained $1\frac{1}{2}$ grammes of pure gold, and 1 silver yen of the former type contained 24.26 grammes of pure silver,
the ratio between gold and silver was consequently:

24.26 : $1\frac{1}{2}$
or 48.52 : 3
or 16.17 : 1

The depreciation of silver naturally began soon to tell against this low ratio between gold and silver. Gold was driven out of Japan, and financial confusion ensued as in Russia (see page 26). The Japanese Government therefore resolved to declare **1 old gold yen equal to 2 new yens,** thereby bringing the ratio between gold and silver to **32.34 : 1.** 5591

Since the establishment of the new gold standard the prices of agricultural produce have shown a rising tendency, whilst those of all imported goods have gone down.

(I) EGYPT.

(1 pound = 100 piastres = 4,000 paras.)

The lira (Egyptian pound) weighs 8.500 grammes; it is coined $\frac{875}{1000}$ fine, and consequently contains 7.4375 grammes pure gold, which at 2.7313s. value **20.314s.,**

or £1 = 98.45 piastres.

The gold standard of Egypt is not a pure one, as the Government fixed the value of the foreign coins, and decreed a tariff according to which the same must be accepted, viz.:

1 sovereign	= 97.50	piastres
20 franc-piece	= 77.15	„
1 Turkish pound	= 87.75	„

(K) URUGUAY.

(1 peso = 100 centavos.)

The Mint issues 10-peso pieces weighing 16.97 grammes

gold $\frac{11}{12}$ fine, which at 2.5037s. the gramme make the value of

1 peso = 4.249s. = 50.988d., or nearly 51d.
£1 = 4.707 pesos.

Montevideo quotes at the present moment bills on London at the parity of 51.34d. per peso (that is above Mint parity), which price indicates a great demand for pesos in consequence of a trade balance in favour of Uruguay.

As in the case of Egypt—see above—the gold standard of Uruguay is not pure, as the Government has likewise decreed a tariff for the foreign money, according to which:

1 sovereign	= 4.70 p.	Argentine pesos 5	= 4.66 p.
Fr. 20	= 3.75 p.	Eagle 1	= 9.66 p.
Marks 20	= 4.60 p.		

Turkey—Portugal—the Argentine Republic and **Brazil** had formerly a gold standard, which could not be maintained. A paper currency took its place, and the old parity has therefore only theoretical interest.

(1) TURKEY.

(1 Turkish lira or pound or gold medjidié = 100 piastres,
1 piastre = 100 cents.)

The Turkish pound weighs 7.216 grammes, and is coined $\frac{11}{12}$ fine, which at 2.5037s. per gramme makes its value equal to **18s. 0¾d.** and £1 = **£T1.107.**

A great number of foreign coins circulate in Turkey, especially Austrian Ducats and Russian Imperials. According to the equation £T.1 = 18.067s., their value in Turkish money should be the following:

Austrian Ducats: English par 9.4s. (see page 24), therefore Turkish equivalent $\frac{940}{18.067}$ = piastres 52.03.

Russian 7½-rouble piece: 1 rouble = 2.1144s. (see page 25), therefore Turkish par $\frac{7.5 \times 2.1144 \times 100}{18.067}$ = piastres 87.77; but generally the ducat is quoted below, and the Imperial above these figures.

(2) PORTUGAL.

(1 milreis = 1,000 reis.)

The crown or 10-milreis piece (= 10$ 000 reis) weighs 17.735 grammes, is $\frac{11}{12}$ fine, which at 2.5037s. the gramme makes its value = 44.4s. or

1 milreis in gold = 4.44s. = 53.28d.
4½ milr. gold = £1.

1,000 milreis are called "conto of reis" and 1,000 contos = 1 million milreis = "conto de contos."

(3) ARGENTINE REPUBLIC.

(1 peso = 100 centavos.)

The peso (also called "dollar") is represented by a gold coin weighing 1.6129 grammes $\frac{900}{1000}$ fine. It contains, therefore, 1.45161 gr. pure gold, which at 2.7313s. per gramme = 3.9648s. = 47.577d.

We note therefore:

$1 = 47$\frac{9}{16}$d.
£1 = $5.04.

The value of the present paper peso or paper dollar varies daily, and is governed by the premium which gold commands against paper.

The present quotation of 127 gold premium means: 100 gold dollars are equal to 100 paper dollars + 127 paper dollars as premium = 227 paper dollars.

The exchange is also sometimes expressed in the value of the paper dollar in pence. The knowledge of either of these quotations is sufficient to calculate Argentine money, as one depends on the other.

The following example may serve as illustration:

The gold premium is given with **127**—what is the corresponding parity of the paper dollar?

$$\begin{aligned} \text{pence } x &= 1 \text{ \$ paper.} \\ 227 &= 100 \text{ \$ gold.} \\ 1 &= 47\tfrac{9}{16}\text{d.} \end{aligned}$$

$$x = \frac{47\frac{9}{16}}{2.27} = \mathbf{20.95d.}$$

The value of the paper dollar is given with **21d.**—what must be the corresponding parity of the gold premium?

$$\begin{aligned} \text{paper \$ } x &= 100 \text{ gold \$} \\ 1 &= 47\tfrac{9}{16}\text{d.} \\ 21 &= 1 \text{ paper \$} \end{aligned}$$

$$x = \frac{4756}{21} = 226.47,$$

or gold premium = **126.47%**.

Sometimes gold is also quoted per ounce in paper dollars, or the price of sovereigns is given in paper dollars; either of these quotations is sufficient to find the exchange on Argentina.

In the first case we have to ascertain the fineness of the gold, and by a simple comparison of the price with 77s. 10½d. (the London price of 1oz. standard gold) we are able to establish the exchange parity, in the second case we have to divide the sovereign price by 5.04 (the parity value of £1) and to subtract 100, for instance, the

price of the sovereign would be given with $ paper 11.45, the gold premium would then be $\frac{1145}{5.04} - 100 = 227.18 - 100 = 127.18$.

(4) BRAZIL.

(The same monetary system as Portugal.)

The 20-milreis piece in gold weighs 17.929 grammes, and is $\frac{11}{12}$ fine, which at 2.5037s. per gramme makes its value 44.89s. or

1 milreis in gold = 2.244s. = **26.93d.**
£1 = 8,912 reis in gold.

The present value of the currency milreis, being 12d., corresponds with a premium on gold of 124.4%, according to the following calculation:

curr. m. x = 100 gold m.
1 = 26.93d.
12 = 1 c. m.

GOLD BARS.

The fineness of gold bars is expressed in thousandths and the tenth thereof (millesimal system). The present gold standard, as already several times mentioned, is $\frac{11}{12}$ fine = $\frac{916\frac{2}{3}}{1000}$, that is 1,000 parts in weight contain $916\frac{2}{3}$ parts of gold and $83\frac{1}{3}$ parts of alloy. The expression for pure gold as unit is therefore $\frac{1000}{1000}$.

Formerly the fineness of bars was differently described, it was given in carats and grains, and marked "B" (better) or "W" (worse), together with the number of carats and grains the fineness exceeded or fell short of the standard.

The grain itself was the fourth part of an ideal weight called "carat," which must not be confused with the

jewellery carat. $\frac{24}{24}$ was then taken as the expression for pure gold, and the English gold standard, which is $\frac{11}{12}$ equal to $\frac{22}{24}$.

India quotes pure gold still as 24 carats gold.

The mark "**B2, 0**" was therefore equal to $\frac{22}{24} + \frac{2}{24} = 1 = \frac{1000}{1000}$, and the mark "O. $1\frac{5}{8}$ W" equal to

$$\frac{22-\frac{13}{8}}{24} = \frac{88-13}{96} = \frac{86\frac{3}{8}}{96} = \frac{691}{768} = \frac{899.735}{1000} \text{ or nearly } \frac{900}{1000}.$$

NOTES FOR PRACTICAL PURPOSES.

1 kilogramme (1,000 grammes).
- = 2.679.227 lb. Troy.
- = 2.204.621 lb. Avoirdupois.
- = 32.150.725 oz. Troy.
- = 15,432.349 grains Troy.

1 ounce Troy = 31.103.496 (31.1035) grammes.

1 kilog. standard gold = £125.1869 = 2503.74s.

1 kilog. pure gold = £136.5675 = 2731.35s.

1 gramme standard gold = 2.5037s.

1 gramme pure gold = 2.73135s.

LEGAL WEIGHT, CONTENT OF GOLD, AND PARITY

—CALCULATED AT 77s. 10½D. THE OZ. STANDARD GOLD—

OF 1,000 NEWLY COINED:

	Fineness in thousandth.	Full weight in kilog.	Content of pure gold in kilog.	Parity in £.
Austrian ducats	986⅔	3.4908	3.4424	470.12
Brazilian 20-milreis pieces	916⅔	17.929	16.435	2244.48
Portuguese crown (10 milreis).....		17.735	16.257	2220.18
English sovereigns		7.988 (256.82oz.)	7.3223 (235.42oz.)	1000 —
Indian Mohurs		11.664 (375 oz.)	10.692 (343.75oz.)	1460.18
Turkish medjidié (pound)		7.216	6.6146	903.34
Russian old half-Imperial		6.545	5.999	819.27
Danish 20-kronen pieces...		8.960	8.064	1101.28
United States half-eagles ($5)		8.359 (268.75oz.)	7.523 (241.875 oz.)	1027.40
Japanese 10-yen pieces ...		8.333	7.4997	1024.22
German 20-mark „ ...		7.965	7.1685	978.98
Austrian 20-kronen pieces		6.775	6.0975	832.72
Dutch 10-florin „		6.720	6.048	825.96
Belgian 20-franc „	900	6.452	5.8068	793.02
Finnish 20-markka „				
French 20-franc „				
Greek 20-drachme „				
Italian 20-lire „				
Persian 20-kran „				
Roumanian 20-leü „				
Russian 7½-rouble „				
Servian 20-dinar „				
Spanish 20-peseta „				
Swiss 20-franc „				
Egyptian pounds	875	8.500	7.4375	1015.72

The figures given in the preceding table show the **theoretical** parity, as no account is taken of the remedy (page 19).

The Bank of England buys and sells foreign coins—if they are in stock—per oz. full weight at **fluctuating** prices, the usual buying price for coins $\frac{900}{1000}$ fine is 76s. 5d. per oz., and their selling price 76s. 9d.

For reasons already stated (page 19) it might suit the Bank at times to attract the gold, and to prevent its withdrawal, which object is attained:

(*a*) By raising the rate of discount, and

(*b*) by raising the purchase and selling price of foreign coins.

The **Continental Mints and Banks** buy likewise gold coins at their **full legal fineness** with few exceptions as follows:—

The French Mint buys

English sovereigns	as $\frac{916}{1000}$	fine	at fr. 3,437 per kilog. pure gold.
German coins	,, $\frac{899.5}{1000}$	,,	
Turkish pounds	,, $\frac{915}{1000}$	,,	
Dutch ducats	,, $\frac{980}{1000}$	,,	
do. 10-florin pieces	,, $\frac{899}{1000}$	,,	
Russian old Imperial	,, $\frac{915}{1000}$	,,	
United States coin	,, $\frac{899}{1000}$	,,	

The Reichsbank buys coins legally minted $\frac{900}{1000}$ as coined $\frac{899.5}{1000}$, and coins minted $\frac{11}{12}$ as $\frac{916\frac{2}{3}}{1000}$ fine, with the exception of Dutch florins (taken as $\frac{899.9}{1000}$) and Imperials (taken as $\frac{899.8}{1000}$ fine), paying m. 2,784 per kilog. pure gold.

The Nederlandsche Bank accepts coins minted $\frac{900}{1000}$ fine as $\frac{899.5}{1000}$, and coins minted $\frac{11}{12}$ fine as $\frac{916\frac{2}{3}}{1000}$, paying florins 1,648 per kilog. pure gold.

The Austro-Hungarian Bank buys gold coins at a fixed tariff, which works out for:

Sovereigns	as equal to	$\frac{916\frac{1}{2}}{1000}$ fine.
Eagles	„ „ „	$\frac{900}{1000}$ „
Dutch florins, Yens	„ „	$\frac{899.8}{1000}$ „
Russian new Imperials, German 20-mark pieces	„	$\frac{899.72}{1000}$ „
French 20-franc pieces	„	$\frac{899.4}{1000}$ „

The American Mint buys all gold coins minted $\frac{11}{12}$ fine as coined $\frac{916}{1000}$, and coins minted $\frac{900}{1000}$ as $\frac{899}{1000}$ fine, paying $800 per 43 oz. gold $\frac{900}{1000}$ fine.

The Mint Expenses amount to:

$2\text{-}2\frac{3}{16}$°/₀₀ in Germany, and in the countries forming the "Union latine."
$\frac{1}{4}$% in Scandinavia.
3°/₀₀ in Austria-Hungary.
$3\frac{1}{4}$°/₀₀ in Holland.
7°/₀₀ in Japan.
1% in India, Russia, and Turkey.

Gold bars can be sold to the:

Bank of England	at 77s. 9d. the oz. standard.	
Banque de France	„ fr. 3437 —	the kilog. pure metal.
Reichsbank	„ m. 2784 —	
Austro-Hungarian Bank	„ k. 3276 —	
Nederlandsche Bank	„ fl. 1648 —	
American Mints	„ $ 800 for 43 oz. $\frac{9}{10}$ fine,	

and can therefore be used as account-settler on the Continent and in the United States; moreover, they nearly always command a small premium against the above prices in the open markets of the great commercial centres.

A comparison of these foreign prices with the English price requires a knowledge of the price of cheque London abroad, and a parity can be established according to the following calculations:

PARIS.

Gold fr. 3437 — cheque London 25.20.

s. x = 1 oz. stand. gold
12 = 11 pure
1 = 31.1 grammes
1000 = 3437 fr.
25.20 = 20s.

x = 77s. $9\frac{3}{16}$d.

NEW YORK.

Gold $800 — cable transfer 4.845.

s. x = 1 oz. stand. gold.
12 = 11 pure
900 = 1000 full
43 = 800 $
4.845 = 20s.

x = 78s. $2\frac{1}{8}$d.

BERLIN.

Gold m. 2785—cheque London 20.46.

s. x = 1 oz. stand. gold
12 = 11 pure
1 = 31.1 grammes
1000 = 2785 m.
20.46 = 20s.

x = 77s. $7\frac{5}{16}$d.

AMSTERDAM.

Gold fl. 1648 — cheque London $12.06\frac{1}{4}$.

s. x = 1 oz. stand. gold
12 = 11 pure
1 = 31.1 gr.
1000 = 1648 fl.
12.0625 = 20s.

x = 77s. $10\frac{3}{4}$d.

We see from these calculations that the foreign exchange rate—price of cheque London—appears as divisor, consequently a lower cheque price corresponds with a higher valuation of gold, and a higher cheque price with a lower quotation of gold.

If the difference between the prices of gold bars in London and abroad should be a paying one, they will in the first case be exported from London, in the latter, be imported into England.

The brokerage for bullion and coins varies from $\frac{1}{16}$ to $\frac{1}{4}\%$.

TABLE

FOR CALCULATING FOREIGN MONEY, BASED ON THE MINT PAR.

To be bound between pages 40 and 41.

TABLE FOR CALCULATING FOREIGN MONEY, BASED ON THE MINT PAR.

1 kilog. pure gold in:	England.	United States.	Germany.	France and Union latine	Holland.	Russia.	Austria-Hungary.	Scandinavia.	India.	Japan.
is coined into:	£136.5675.	$664.6144.	m. 2790	fr. 3444.444.	fl. 1653.44.	r. 1291.6666.	k. 3280.	k. 2480.	m. 93.5293. = curr. rup. 2048.512	y. 1333.333.
consequently £1 =	1	4.8666	20.43	25.22	12.107	9.46	24.02	18.16	15	9.765
$1 =	49.316d.	1	4.1979	5.1826	2.4878	1.9436	4.9351	3.7314	3.0822	2.006
m. 1 =	11.75d.	23.82c.	1	1.2345	0.5926	0.463	1.1756	0.888	0.7342	0.4778
fr. 1 =	9.516d.	19.295c.	81pf.	1	0.48	0.375	0.9522	0.72	0.5947	0.38706
fl. 1 =	19.82d.	40.195c.	1.6874	2.0831	1	0.7812	1.9837	1.499	1.2387	0.80639
rouble 1 =	25.37d.	51.45c.	2.1598	2.666	1.28	1	2.5391	1.9199	1.5856	1.032177
Aust. k. 1 =	10d.	20.26c.	85.06pf.	1.05	0.5041	0.3938	1	0.75609	0.622	0.4065
Scand. k. 1 =	13.212d.	26.80c.	1.125	1.388	0.666	0.5208	1.3225	1	0.8257	0.5376
rupee 1 =	16d.	32.443c.	1.362	1.6813	0.8071	0.6306	1.6013	1.211	1	0.651
yen 1 =	24.576d.	49.85c.	2.0925	2.5833	1.23959	0.96882	2.46	1.86	1.536	1

For instance, to convert French money into Japanese money, we use the horizontal column "franc 1," and follow it till we meet the vertical column "Japan," from which we see **fr. 1 = yen 0.38706.**

To convert Japanese money into French money, we use the horizontal column "yen 1," and follow it till we meet the vertical column "France," from which we see **yen 1 = fr. 2.5833.**

The preceding table can also be used for comparing English money with the money of all foreign countries having adopted a gold or double standard, and for comparing the money of such nations with each other.

For instance, we may compare :—

(1) English money with United States—German—French and Austrian money, and see from the table :

£1 = $4.8666 = m. 20.43 = fr. 25.22
= k. 24.02.

(2) United States money with German—French—Austrian and Japanese money, and the table indicates :

$1 = m. 4.1979 = fr. 5.1826 = k. 4.9351
= yens 2.006.

Of course, all these equivalents represent only the Mint pars, and the actual value of the foreign units might differ from it, for reasons already explained on page 20.

B. SILVER.

The present **English** silver-standard was legalised by Act of Parliament in 1817. According to it:

One pound Troy standard silver (12 oz.) must contain 11 oz. 2 dwt. pure silver, and must be coined into 66 shillings.

This proportion of silver and alloy was fixed by Edward I. in 1279, at which time 1 oz. standard silver was coined into 20 shillings only.

The silver standard is therefore:

$\frac{11\frac{2}{20}}{12} = \frac{11\frac{1}{10}}{12} = \frac{111}{120} = \frac{37}{40} = \frac{925}{1000}$, and the silver value of one shilling $= \frac{1}{66}$ of the price for 1 lb. standard silver; or at the **present price of 27d. per oz.** $= \frac{27 \times 12}{66} = 4.9$d., and the under value amounts in consequence to 7.1d. or to nearly 60%.

As 1 pound of silver can actually be bought at 27s., the Mint makes a profit of 66 − 27 = 39s. per pound, or about 144%.

This profit of the Mint is called "**seigniorage,**" but it must be borne in mind that in Great Britain silver is no legal tender for more than 40s.

The value of 1 kilog. standard silver at 27d. per oz. is 72.33s. (2.679 lb. Troy = 1 kilog. and the Troy lb. = 27s.), and the value of **1 kilog. pure silver** at 27d. per standard oz. = **78.19s.** $(72.33 \times \frac{1000}{925})$, and the value of **1 kilog.** silver $\frac{900}{1000}$ fine $= 78.19 \times \frac{900}{1000} =$ **70.37s.**

The French silver coins are either

$\frac{900}{1000}$ fine, like the 5-franc piece, or

$\frac{835}{1000}$,, ,, 2-franc, 1-franc, and ½-fr. piece.

In former years, before the depreciation of silver, the French Mint paid francs 200 for 1 kilog. silver $\frac{900}{1000}$ fine, equal to fr. 222.22 for $\frac{1000}{1000}$ = pure silver, and charged fr. 3.33 for expenses, which brought the price down to **fr. 218.89.** This price was used **until lately** as a quotation basis, and silver was dealt in with so much per cent. loss (say, for instance, 55% loss) against it. But now the price is given in francs for 1 kilog. pure silver.

As already stated before (page 13) the French Mint does not accept any silver for coinage.

In countries where gold and silver concurrently were once legal tender, pure gold was generally worth 15½ times its weight in silver. At that time 1oz. standard silver valued 60$\frac{7}{8}$d. The value of 1oz. **pure** silver was therefore

$$60\tfrac{7}{8} \times \tfrac{1000}{925} = 65.81\text{d.},$$

and as the value of 1oz. **pure** gold is 84.95s. (page 19), or 1019.4d., the proportion between gold and silver stood 1019.4 : 65.81 **or 15½ : 1.**

The French quotation of silver shows that proportion at a glance.

1 kilog. gold $\frac{900}{1000}$ fine was always valued at fr. 3,100, and
1 „ silver „ „ „ was formerly valued „ fr. 200,

the ratio between the two metals was therefore 3100 : 200 **or 15½ : 1.**

At the actual silver price of 27d. the oz. standard,
1 kilog. pure silver values 78.19s. (page 41), and
1 „ „ gold „ 2731.3s. (page 20)

at the price of 77s. 10½d. the oz. standard gold, the ratio between gold and silver is therefore **at present** 2731.3s. : 78.19s., **or** nearly **35 : 1.**

The various South American States have a silver coin,

bearing different names, as: boliviano, dollar, gourde, peso, piastre, sol, sucre, venezolano, but which are all minted after the type of the French 5-franc piece; it is therefore interesting to find out its actual silver value.

1 kilog. $\frac{900}{1000}$ fine silver is coined into 40 pieces of francs 5 each, therefore 40 pieces = 70.37s. (based on the price of 27d. the oz. standard), or 1 piece of francs 5 = 1.759s. = 21⅛d. (or in French money fr. 2.218 at the Mint parity of 25.22), which comes very near the intrinsic value of the above-mentioned coins. But, of course, the fr. 5-piece itself passes as equivalent of fr. 5 in gold, being regarded as such at its issuing place.

THE RUPEE.

(1 rupee = 16 annas = 64 pice

1 lac = 100,000 rupees

1 crore = 100 lacs = 1,00,00,000.)

The rupee has by far the widest circulation of all the silver coins in the world; it is the coin of the largest and most populous part of the world—of Asia proper, and of some parts of Africa.

Its weight is $\frac{3}{8}$ oz. Troy (=180 grains=1 tola) with a fineness of $\frac{11}{12}=\frac{916\frac{2}{3}}{1000}$; its **intrinsic** value therefore is at the present silver price of 27d. per oz. standard, **10.03d.** (according to $27 \times \frac{916\frac{2}{3}}{925} = 26.75$, or $27 \times \left(\frac{\frac{11}{12}}{\frac{37}{40}}\right) = 26.75$, of which $\frac{3}{8} = 10.03$).

India quotes the price of silver in rupees for 100 tolas silver, which is $\frac{996}{1000}$ fine.

To find the Indian equivalent of a London silver price, we employ the following equations:

$$
\begin{aligned}
\text{rupees } x &= 100 \text{ tolas silver} \\
1 &= \tfrac{3}{8} \text{ oz.} \\
1{,}000 &= 996 \text{ oz. fine} \\
925 &= 1{,}000 \text{ oz. London standard} \\
1 &= 27\text{d. (London price)} \\
16 &= 1 \text{ rupee} \\
\hline
x &= 68.14
\end{aligned}
$$

The operations with the fixed figures lead to the final figure **2.5211,** which, multiplied by the London price, gives the parity, or more shortly: $\frac{\text{London price} \times 10}{4} + 9\,{}^{o}/_{oo}$ **of quotient;** in the above example: $\frac{27 \times 10}{4} = 67.50$, and 67.50, plus $9\,{}^{o}/_{oo} = 67.50 + 0.61 = 68.11$.

To establish the London parity of an Indian silver quotation, we have the following chain:

$$
\begin{aligned}
\text{pence } x &= 1 \text{ oz. standard silver} \\
1{,}000 &= 925 \text{ oz. fine} \\
996 &= 1{,}000 \text{ oz. full weight} \\
\tfrac{3}{8} &= 1 \text{ tola} \\
100 &= 70 \text{ rupees (price)} \\
1 &= 16 \\
x &= 27.74
\end{aligned}
$$

The operations with the fixed figures lead to the final figure **0.39625,** which multiplied by the Indian price gives the parity, or more shortly **Indian price** $\times \frac{4}{10}$ **less** $9\,{}^{o}/_{oo}$, in the present example: $70 \times \frac{4}{10} = 28$, and 28 less $9\,{}^{o}/_{oo}$ (0.25) = 27.75.

In 1893 the Indian Government suspended the coinage of silver for the public, and declared the British sovereign legal tender for 15 rupees, thereby fixing the value of the rupee at $\frac{240}{15}$ = 16d., and the value of 1 anna at 1d.

The Government has through that measure adopted a "limping standard," which has put an immediate stop to a further depreciation of the rupee, and prevented considerable fluctuations of the Indian exchange-rate. Holland took a similar step sixteen years previously—in 1877—with regard to the currency of her possessions in the East Indies.

The Indian Mints which remain open for the coinage of gold charge 1% expenses.

The "mohur"—India's gold coin—valued formerly at 15 rupees, is exactly the weight and fineness of the rupee, that is $\frac{3}{8}$ oz. $\frac{11}{12}$ fine, and its par value therefore $\frac{3}{8}$ × 77.875s., = 29.203s., which amount can at present be exchanged into 21.9 rupees (at 16d. the rupee). The Mint issues also 5-rupee ($\frac{1}{3}$ mohur), 10-rupee ($\frac{2}{3}$ mohur), and 30-rupee (double mohur) pieces in gold.

In former years, when 1 mohur equalled 15 currency rupees, gold was then worth 15 times its weight in silver, as both coins are of the same weight and metal purity; the ratio between gold and silver was then 15 : 1. To-day, that ratio stands at **35 : 1**, as the intrinsic silver value of the rupee is **10.03d.**, and the intrinsic gold value of the mohur 29.2s., or **350.4d.**.

The fixing of the rupee value at 16d. made the value of the mohur (15 rupees in gold) as said before 21.9 currency rupees, or 1 gold rupee equal to 1.46 currency rupee, or 100 gold rupees = 146 currency rupees. The Government therefore perpetuated through its measure a premium on gold of 46%.

THE MEXICAN DOLLAR.

The silver coin which has the next largest circulation after the rupee is the Mexican dollar, in which form Mexico sends the output of its rich silver mines into the world.

Its weight varies according to the issuing place, as there are several Mints in Mexico.

Legally it should weigh 417.8 grains, and should be $\frac{9027}{10000}$ fine,* and therefore contain 377.14 grains of pure silver, but its average weight is only 416½ grains, its average fineness only $\frac{898}{1000}$, and its average content of **pure** metal rarely more than 374 grains, which corresponds with 404.32 grains of English standard silver ($374 \times \frac{40}{37}$). We note therefore:

1 MEXICAN DOLLAR:

Average full weight:
416.5 grains = 0.8677 oz. = 27 grammes.

Average content of pure silver:
374 ,, = 0.7791 ,, = 24.24 ,,

Average content of English standard silver:
404.32 ,, = 0.8423 ,, = 26.20 ,,

We find the **intrinsic value** of the Mexican dollar by the following equations:

pence x = 1$
1 = 0.8423 oz. English stand
1 = 27*d.* (**present price** of 1 oz. stand silver)

x = 22.74d.,

or more shortly, **London silver price minus 16% of the silver price** (in the above case, 27 − 4.32 = 22.68).

* Exactly 65/72 fine.

To establish the **value of 1 oz. Mexican dollars** we employ the following equations:

$$\begin{aligned} \text{pence } x &= 1 \text{ oz. Mex. dollar} \\ 1 &= 480 \text{ grains} \\ 416.5 &= 1 \text{ Mex. dollar} \\ 1 &= 404.32 \text{ grains English stand} \\ 480 &= 1 \text{ oz.} \\ 1 &= 27\text{d. (present price)} \\ \hline x &= 26.21\text{d.}, \end{aligned}$$

or more shortly, **London price of standard silver minus 3% = 1 oz. Mexican dollar in English money** (in the above case, 27 − 0.81 = 26.19d.).

The Mexican Mints charge $4\frac{3}{4}\%$ for the coinage of silver.

Mexican dollars in gold and **Mexican doblons** or **quadruples** appear sometimes on the Paris market.

The quadruples contain 23.7 grammes pure gold, and have therefore a value of **64s. 9d.**, while the gold dollar is of a par value of **4.16s.**, according to the following chain:

$$\begin{aligned} \text{shillings } x &= 1\$ \text{ gold} \\ 1 &= 1.692 \text{ grammes full weight} \\ 1{,}000 &= 900 \text{ grammes pure gold} \\ 1 &= 2.7313\text{s.} \end{aligned}$$

As 1 Mexican dollar (peso) in gold contains **1.692 gr.** gold $\frac{900}{1000}$ fine, and the silver dollar, if accurately minted, ought to weigh **27 gr.** of silver $\frac{900}{1000}$ fine, the ratio between gold and silver is fixed at **16 : 1.**

THE BRITISH DOLLAR

is a silver coin created in 1894 by the British Government to facilitate commerce in the Far East.

It has been declared legal tender in Hong-Kong,

Straits Settlements and Labuan; its weight is 416 grains, and its fineness $\frac{900}{1000}$, and is therefore a true copy of the former Japanese silver yen.

Comparing the British dollar with the Mexican, the latter is, if accurately minted, the more valuable of the two, as it should contain 2.75 grains more of pure silver.

TAEL.

China, a country with a population of nearly 400,000,000 souls, has but one very tiny coin, made out of copper, iron and tin, the "**cash**" of the approximate value of the ninth part of a farthing.

It is obvious that such a coin* cannot be of much service as account-settler. Moreover, its value is decreasing; where formerly 1,000 "cash" were taken for 1 tael, to-day about 1,100 cash are considered as the necessary equivalent.

All payments are effected by silver, which is weighed, while gold is rarely used for that purpose.

In the Treaty Ports, Mexican — British — United States—and Maria Theresa dollars, yens, and rupees form the medium of payments. All the silver which the Government receives in payment of duties, whether coins, or bars, or both, is melted and refined, and sold as "**sycee**" which silver on account of its great purity commands premium against the ordinary silver (fineness of $\frac{898}{1000}$).

The weight used for payments is called "**tael,**" but it is not of a uniform quantity in the Empire; it differs in the various provinces, even in the Treaty Ports the taels are not all alike. For instance, the "Haikwan tael" (or Customs—or Government—tael) weighing 38.246 grammes is the heaviest, and the "Hoihow tael" weighing 33.62 grammes, the lightest.

* Also called "li" or "zin" or "pitje."

The Canton tael forms the standard weight, and is equal to 580 grains, or 37.584 grammes, **or 1.208 oz., and the quantity of silver of the fineness of the Mexican dollar** ($\frac{898}{1000}$) **weighing a Canton tael is equal to one money—or currency—tael.**

1 Canton tael of silver contains therefore 580 × $\frac{898}{1000}$ = **520.84 grains** of pure silver.

Weight tael and money tael must not be confused, the one is a fixed weight, and the other represents a quantity of silver equal to that fixed weight.

The Shanghai weight tael* is about 2¼% lighter than the Canton tael; it weighs exactly 564.2 grains, and is generally used as weight for gold.

The value of the money tael based upon Canton weight, and the value of the money tael based upon Shanghai weight, work out exactly identical. This seems paradoxical, as the Canton weight tael is equal to 580 grains, while the Shanghai tael weighs 564.2 grains only.

The process of converting silver bars of a fineness of $\frac{898}{1000}$ into currency bars will explain the apparent discrepancy.

All silver bars in China have the form of shoes (and are therefore called "shoes") weighing from half a tael up to 100 taels, and before being put into circulation have to be assayed. The bars are stamped, and marked with their proper weight **plus** an additional weight of 8.12%, i.e., a bar weighing 100 taels before the assay is marked after the assay with 108.12 taels. This additional weight of 8.12% might be compared with the Mint expenses in other countries for transforming metal into coins. 100 taels before the assay therefore become equal to 108.12 currency taels after the assay, or 100 Shanghai taels proper—564.2 grains each—are equal to 108.12 money taels; 1 tael of the latter is therefore equal to $\frac{564.2}{1.0812}$ = 521.83 grains,

* Also called "Chauping," or "Kouping" tael.

which, containing silver of a fineness of $\frac{998}{1000}$, corresponds with **520.79 grains** of **pure** silver, ($521.83 \times \frac{998}{1000}$).

Both taels, the Canton tael, and the Shanghai money tael, therefore contain the same quantity of pure silver, and one can consequently take the place of the other.

We will now calculate the value of the money tael at the present price of 27d. the oz. standard silver:

pence x = 1 tael currency
1 = 1.208 oz. (580 gr.)
1000 = 898 fine
925 = 1,000 English standard
1 = 27d.

x = 31.67

The operations with the fixed figures lead to the final figure 1.173, which, multiplied by the London silver price, gives the parity, or more shortly: **Parity = London silver price + $\frac{1}{6}$ London price**; in the present example $27 + \frac{27}{6} = 27 + 4.5 = 31.5$d.

Taking into consideration the process of converting silver bars into currency bars, we have the following equations:

pence x = 1 tael currency
108.12 = 100 tael Shanghai
1 = 564.20 grains
480 = 1 oz.
1000 = 998 fine
925 = 1000 English standard
1 = 27d.

x = 31.67

In Shanghai **1,000 Mexican dollars are taken as equal to 717 taels, or $1.395 = tael 1.**

The weight of 1 Mexican dollar = 416½ grains would make the weight of 1,000 dollars = 416,500 grains, or expressed in Canton taels of 580 grains = 718.1 taels.

The Chinese express the fineness of gold in parts of 100 ("touch"); pure gold is described as "100 touch,"

and gold of "98 touch" (the fineness of the gold usually dealt in) is in Shanghai quoted per 10 taels in currency taels. The London par of a Shanghai quotation, 407 for gold, for instance, can therefore be established by the following equations:

shillings x = 1 oz. English standard
12 = 11 pure
1 = 480 grains
552.916* = 407 taels currency (Shanghai price)
1 = 31.67d. = 2.64s. (parity as above)

As 1 tael currency is equal to 520.84 grains of **pure** silver, 1 tael Canton weight (580 gr.) of **pure** silver should be equal to $\frac{580}{520.84}$ = 1.113585 taels currency.

The Shanghai tael contains 552.916 grains of pure gold, the weight of 1 Canton tael weight gold should therefore correspond with $\frac{580}{552.916}$ = 1.04898 Shanghai taels (weight)

We have therefore:

1 tael Canton weight of **pure** silver = 1.113585 taels currency; and 1 tael Canton weight of **pure** gold = 1.04898 × price of 1 tael gold in Shanghai.

As the latter is at present about 407 taels currency for 10 taels weight $\frac{980}{1000}$ fine, or taels 41.53 for 1 tael weight of pure gold, the ratio between the two metals stands as 41.53 to 1.1136, or 37¼ : 1, which shows a higher valuation of gold than in any other country.

MARIA THERESA THALER.

This medium of exchange has a very large circulation throughout the world; it serves in the Mediterranean (where it is called "Levantine dollar"), in the Far East, and on the East coast of Africa (where it is known as "Januario").

* The Shanghai tael of 564.20 grains $\frac{980}{1000}$ gold contains pure gold: 564.2 × $\frac{980}{1000}$ = 552.916 grains.

It was created in 1780 by Maria Theresa, and though it is never seen in Austria, it is still issued by the Vienna Mint.

One old Vienna Mark (280.668 grammes) **pure** silver is coined into 12 Maria Theresa thalers, each of them consequently containing 23.389 grammes pure silver, which would be equal, at the present silver price of 27d. the oz. standard (or 29.18 the oz. pure metal, or 1 gramme = 0.938d.), to 21.94d., or nearly 22d. The full weight of the coin would be, as it is minted $\frac{5}{6}$ fine ($\frac{833\frac{1}{3}}{1000}$), 28.0668 grammes.

The Vienna Mint charges 3 kronen for the converting of 1 kilog. silver into Maria Theresa thaler.

UNITED STATES DOLLAR.

This coin, weighing 412½ grains with a fineness of $\frac{900}{1000}$, contains 371.25 grains pure silver, which at the **present price of 27d. for 1 oz.** standard silver would correspond with **22.57d.** = 1s. $10\frac{9}{16}$d. (1 oz. pure silver, as before, = 29.18d. or 1 grain = 0.0606d.), while the theoretical parity of the gold dollar is 4s. 1.316d. (see page 23).

Although this calculation shows the silver dollar to be depreciated to the extent of nearly 54%, yet this is a matter of no importance, as the silver dollar has the same paying-power as the gold one.

As the weight of $1 in gold is 25.8 grains, and
„ „ $1 „ silver „ 412.5 „ and both coins are minted $\frac{900}{1000}$ fine, the ratio between the two metals stands 412.5 : 25.8 or **16 : 1.**

The New York quotation for silver is for 1 oz. pure silver, and a New York price of **56** cents would therefore be equal to 56 × $\frac{925}{1000}$ = 51.8 cents for 1 oz. standard silver, which at the par of 49.316d. per dollar would be equal to 0.518 × 49.316 = **25½ pence.**

The London quotation for silver of 27d. would correspond with $27 \times \frac{1000}{925} = 29.18$d. for 1oz. pure silver, and in United States money on the basis of 49.316d. per dollar $\frac{2918}{49\,316} = \mathbf{59.17}$ **cents.**

The operations with the fixed figures in the preceding calculations lead to the final figures **0.45617** and **2.1921.**

The American silver price multiplied by 0.45617 shows the English parity price, and the English silver price multiplied by 2.1921 gives the New York quotation.

SPAIN.

(*1 peseta = 100 centenos.*)

The Spanish monetary system is modelled on that of France, the peseta taking the place of the franc.

Before 1848 Spain minted the Spanish dollar, also called peso or piastre, which circulates still in the Far East, and therefore deserves mention. The average weight of the peso is 26.891 grammes with a fineness of $\frac{896}{1000}$, and has therefore at the **present price** of 27d. the oz. standard silver a value of **22.6d.**, according to a calculation which the reader can now make for himself, on the plan of the numerous ones already given.

Of the old gold coins the **doblon** or **quadruple** or **onza de oro** sometimes appears on the Paris market. Its weight is 26.95 grammes, its fineness $\frac{894}{1000}$ and its par-value therefore 65s. 9½d., while it passes generally in the commerce of the East as 64s. only.

The present quotation of pesetas 33.55 cash for £1 cash corresponds with a gold premium of 34.2% according to the following equations:

currency pesetas x = 100 gold pesetas
p. 25 = £1
£1 = 33.55 currency pesetas
x = 134.20

VARIOUS COUNTRIES.

CANADA.

The value of the United States dollar is fixed at 49½d.; the colony uses ½-dollar pieces (50 cents) in silver, weighing 11.62 grammes (179.32 grains) minted $\frac{925}{1000}$ fine, therefore containing 10.748 gr. of pure silver.

CHILE.

This republic reformed its currency in 1896; the monetary unit is the "peso," represented by a silver coin weighing 20 grammes, minted $\frac{835}{1000}$ fine, containing 16.7 grammes of pure silver.

The gold coins are the "colon" or "condor" (20-peso pieces), the "doblons" (10-peso pieces) and the escudo (5-peso pieces), the latter weighing 2.995 grammes, minted $\frac{11}{13}$ fine, therefore containing 2.745 gr. pure gold, which makes 1 peso gold equal to 0.549 gr. gold.

The ratio between gold and silver consequently stands 16.7 : 0.549, or **30.41 : 1.**

COSTA RICA.

The monetary unit is since 1898 the "colon," divided into 100 cents, equal to 0.7002 grammes pure gold. It is not represented by a single coin, as the issued coins are for 2—5—10 and 20 colons in gold, and for 5—10—25 and 50 cents in silver.

DUTCH EAST INDIES.

The old Spanish piastre (with the fixed value of florins $2\frac{1}{2}$), the Mexican dollar (with the fixed value of florins 2.55), and Dutch coins, form the medium of exchange, while in the interior of the Islands barter is still carried on.

ERITHREA.

Italy, as a member of the "Union latine," is not authorized to issue any more silver coins on the model of the French 5-franc piece, and has therefore minted for the requirements of this small colony a silver coin called "**Erithrea thaler**" weighing 28.125 grammes, coined $\frac{800}{1000}$ fine, consequently like the French 5-franc piece containing 22.5 grammes of pure silver.

FRENCH INDO-CHINA.

The French Government has coined for use in this colony **piastres** in silver, weighing 27 grammes, $\frac{900}{1000}$ fine; their intrinsic value is therefore almost identical with that of the Mexican dollar.

GERMAN EAST AFRICA.

The Berlin Mint issues for use in this colony silver coins minted exactly after the type of the Indian rupees, and likewise called "*rupees.*" The coin therefore weighs 180 grains, and is $\frac{11}{12}$ fine.

KOREA

has the same monetary system as China.

MOROCCO.

The monetary unit is the piastre subdivided in 10 onces or 100 centavos, and represented by a silver coin of the weight of 29.116 grammes $\frac{900}{1000}$ fine = 26.2044 gr. pure silver.

NEWFOUNDLAND.

Accounts are kept in dollars, and the value of $1 fixed at 50d. The $2 piece in gold (200 cents) weighs 3.328 gr. and is $\frac{11}{12}$ fine, that is of the fineness of the English sovereign.

The equations:

$$\text{pence } x = 3.328 \text{ gr.}$$
$$7.988 = 240\text{d.}$$

give $x = 100$, or $2 equal to 100 pence, or $4.80 = £1.

PERU.

The monetary unit is the "**sol**" (sun), represented by a silver coin, and by a gold coin. The silver sol is a true copy of the French 5-franc piece, it is therefore minted $\frac{900}{1000}$ fine, and weighs 25 gr., while the sol in gold, coined $\frac{900}{1000}$ fine, weighs 1.613 gr.

The ratio between gold and silver stands consequently 25 : 1.613 or 15½ : 1. Since 1900 Peru issues gold coins called "Peruvian pounds and half-pounds," corresponding in weight and fineness with the English sovereigns and half-sovereigns.

PERSIA.

The Persian monetary system is modelled on that of France, the "**kran**" taking the place of the franc. The 20-kran piece in gold (double toman) is exactly like the French 20-franc piece (6.45 gr. $\frac{900}{1000}$ fine). The silver kran is of a weight of 4.6 grammes, coined $\frac{900}{1000}$ fine, and divided into 1,000 dinars.

RUSSIA.

Russia issues pieces of 1 rouble in silver weighing 20 grammes, minted $\frac{900}{1000}$ fine, and as the 7½-rouble piece in gold, which is likewise of a fineness of $\frac{900}{1000}$, weighs 6.452

grammes (or 0.86026 gr. gold for 1 rouble), the ratio between gold and silver has been fixed at 20 : 0.86026, that is **23¼ : 1.**

SIAM.

The silver coin forming the monetary unit is called "**tical,**" or "**bat,**" and its value is fixed at 60 cents, as the Bangkog Mint exchanges

3 Mexican dollars against 5 ticals.

Taking the Mexican dollar as containing 24.24 grammes of pure silver, the Mint parity of the tical should be $24.24 \times \frac{3}{5} = 14.54$ gr., while the tical contains seldom more than 13.80 gr. pure silver. The tical is divided into "salung" and "fuang" (1 tical = 4 salung = 8 fuang), while the copper and pewter coins take the place of the cowries, the former Siamese medium of exchange, 800 of which were taken as equal to 1 fuang.

TURKEY.

The 20-piastre piece in silver ("silver medjidié"), weighing 24.055 grammes, and $\frac{830}{1000}$ fine, contains 19.965 gr. pure silver.

It is legally equal to 19 piastres in gold.

1 £T therefore = 105.26 piastres in silver medjidiés, which makes the ratio between gold and silver 1 : 15.88, as we find 6.6146 grammes pure gold (see page 36) = 105.07 grammes pure silver.

VENEZUELA.

The "**venezolano**" is the monetary unit.

The venezolano in silver corresponds exactly with the French 5-franc piece, and is divided into 5 "bolivars" of 100 cents; the venezolano in gold represents the fourth part of the French 20-franc piece, containing 1.613 gr. gold. As both venezolanos are minted $\frac{900}{1000}$ fine, the ratio between gold and silver stands 25 : 1.613, or **15½ : 1.**

ZANZIBAR.

The 5-dollar piece in gold is a true copy of the United States half-eagle piece, weighing 8.359 gr. with a fineness of $\frac{900}{1000}$; the $1 piece in silver, minted $\frac{900}{1000}$ fine, weighs 27.215 gr.

SILVER BARS.

Silver bars like gold bars do not always show the exact standard-purity, their fineness differs, they are sometimes above, sometimes below the standard. In the first case the higher fineness is marked with "B" (better), in the latter with "W" (worse).

A bar marked "**17 B**" (in which form takes place the majority of silver dealings in the East) is of a fineness of

$$\frac{11\frac{8}{20} + \frac{17}{20}}{12} = \frac{11\frac{25}{20}}{12} = \frac{239}{240} = \frac{996}{1000},$$

and the quotation for **pure** silver would be:

"**18 B**" as $\frac{11\frac{8}{20} + \frac{18}{20}}{12} = \frac{240}{240} = \frac{1000}{1000}$.

A bar marked "**6 W**" would be:

$$\frac{11\frac{8}{20} - \frac{6}{20}}{12} = \frac{216}{240} = \frac{36}{40} = \frac{900}{1000} \text{ fine.}$$

Paris quotes the price of 1 kilog. pure silver, which divided by 32.15 (as 1 kilog. = 32.15 oz.) gives the price of 1 oz. pure silver; the latter multiplied by $\frac{37}{40}$ (English standard) shows the price of 1 oz. standard silver in French money.

A Paris quotation of **fr. 95** is therefore equal to: $\frac{95}{32.15} \times \frac{37}{40}$ = fr. 2.733 for 1 oz. standard silver, which amount, at a cheque price of 25.20, corresponds with **26d.**

The operations with the fixed figures lead to the final figure **6.9, which multiplied by the Paris silver price and divided by the price of cheque London in Paris gives the London parity.**

II. ARBITRAGE IN BILLS OF EXCHANGE.

THE commerce of the world, as far as payments are concerned, is mostly carried on by means of bills, long or short dated.

Payments in form of cheques may be considered as payments by way of bills on demand.

A bill of exchange is an unconditional written order addressed by one person to another, signed by the person giving it, requiring the person to whom it is addressed to pay on demand, or at a fixed or determinable future time, a sum of money to, or to the order of, a specified person, or to bearer.

Every bill payable in the United Kingdom (except a bill on demand) is only payable 3 days (days of grace) after it is due. But when the last day of grace falls on Sunday, Christmas Day or Good Friday, the bill becomes payable on the preceding business day.

"Bank Post Bills" (bills issued by the Bank of England, payable after 7 days or 60 days) and "Treasury Bills" have not the benefit of the 3 days of grace.

A bill, if not made payable at a Bank, is on its maturity presented to the acceptor, who pays for it in cash, or with a cheque on his banker.

The cheque is then generally made out "bill attached," and can be an "open" one or a "crossed" one, which latter has to be "cleared" (credited to the account). Eighteen of the largest London Banks have agreed not to pay in cash the cheques drawn on them "crossed," but to compensate ("clear") them. In this way annual payments amounting to £10,000,000,000 sterling are compensated; the daily balances of one bank against another are settled

by cheques on the Bank of England, which acts as gold reservoir. This system of payment obviously saves much trouble and time, and does away with the actual handling of the coins, and the loss of metal connected with it.

The English stamp on bills of exchange, payable in the United Kingdom, is $\frac{1}{2}$°/₀₀, and for bills circulating in Great Britain but drawn and payable abroad $\frac{1}{4}$°/₀₀. Bills must be left 24 hours for acceptance, dishonoured bills must be "noted" on the day they become payable, while the protest can be made out afterwards. A bill drawn from abroad, and merely sent for acceptance, does not require the English bill stamp, which is only affixed as soon as the first English endorsement takes place. Bills payable abroad, and already stamped in the foreign country, are usually sold at a trifle better rate.

The year is reckoned at 365 days, while on the Continent only 360 days are taken.

The brokerage for bills is fixed at 1°/₀₀.

The London foreign bill market is held every Tuesday and Thursday from 1.30 to 2.30 in the Court of the Royal Exchange ("Change"), while on the Continent foreign bills are negotiated within the Bourses themselves during the business hours of the stock market.

The "usance"—the time for which bills on London are drawn—is the following:

For bills from Germany and Holland, 1 month's date,
" Paris, Geneva, Malta, 30 days' date,
" Spain and Portugal, 2 months' date,
" Italy, 3 months' date,
" New York, 60 days' sight, or 75 days' date,
" Sweden, 75 days' date,
" South America, 90 days' sight,
" China, Japan and India, 4 months' or 6 months' sight.

Bills may also be drawn "documentary," that is accompanied by documents (shipping and insurance) showing the basis of the bill.

The London list of "course of exchange" quotes foreign bills either in English money or in foreign money.

In **English money** are quoted:
Bills payable in Russia and Portugal.

In **foreign money** are quoted:
Bills payable in all the other foreign countries.

All these bills are quoted for three months with the exception of bills on Holland and France, for which a cheque-price is also given.

The above list does not include bills payable in Buenos Ayres, Valparaiso, Rio de Janeiro, Yokohama, Shanghai, Hong-Kong, Calcutta, and Bombay, in which transactions rarely take place at rates expressed in **English money.**

In calculations connected with bills the two following well-known axioms must always be borne in mind:

(1st) Only quantities of exactly the same kind can be compared.

(2nd) Things which are equal to the same thing are equal to one another.

The price of a bill falling due in three months cannot be compared right out with a bill payable at sight. To make a comparison possible, it is necessary to bring the prices of both to the same level, either to quote both for three months, or for sight-bills. We prefer for various reasons to reduce all prices of long bills to the prices of cheques. In order to do this, we have to find out the **cash value** of the long bills under examination, that is we

have to find out the exact interest (discount) at the Bank-rate of the country where the bill is payable, and

(*a*) **to add** the discount in case the quotation is in **English money**, or

(*b*) **to subtract** the discount in case the quotation is in **foreign money.**

For instance:

(a) A bill on Russia is quoted "25," read:

"1 rouble payable in 3 months costs 25d."

therefore, 1 rouble payable immediately, at sight, is worth **more**, that is to say 25d. plus the interest these 25d. employed in Russia should yield in 3 months at the discount rate in Russia, which is fixed by the Russian State Bank.

We find the discount would be at the present rate of $4\frac{1}{2}\%$ p.a. $= \frac{25d. \times 4\frac{1}{2} \times \frac{3}{12}}{100} = \frac{25 \times 4\frac{1}{2}}{\frac{4}{100}} = \frac{25 \times 1\frac{1}{8}}{100} = \frac{28\frac{1}{8}}{100}$d., and the price of a bill payable at sight (cheque) would consequently be equal to $25 + \frac{28\frac{1}{8}}{100} =$ **25.28125d.**

(b) A bill due in 3 months, payable in France, is quoted 25.40, that is

Francs 25.40 payable in 3 months = £1;

its cash value would therefore be **below** this price, that is to say **less** the discount for 3 months, which is fixed by the Banque de France. At the present rate of 3%, the discount for a bill of fr. 25.40, payable in 3 months, would amount to:

$$\frac{\text{fr. } 25.40 \times 3 \times \frac{3}{12}}{100} = \frac{25.40}{100} \times \frac{3}{4} = 0.19,$$

and therefore the cash value of the bill = fr. 25.40

less discount = „ 0.19

fr. 25.21.

A clear understanding of the relations between

short and long dated bills will facilitate the calculations shown later on.

The London newspapers publish every Wednesday and Friday along with the list of "course of exchange" a table containing the telegraphed exchanges on London from the various commercial centres of the world, thus facilitating the comparison of prices.

The following tables represent a cutting from *The Times*:

Amsterdam, etc.	12 1⅛	12 1⅜
do., three months...	12 3⅜	12 4⅛
Antwerp and Brussels	25 43¾	25 48¼
Hamburg	20 66	20 70
Berlin, etc.	20 66	20 70
Paris, cheques	25 18¾	25 23¾
Do., three months	25 38¾	25 43¾
Switzerland	25 43¾	25 48¾
Austria	24 22	24 27
St. Petersburg and Moscow	24⅞	25
Genoa, etc.	25 45	25 50
Madrid, Barcelona, etc.	35	35¼
Lisbon—Oporto	41⅛	42⅜
Copenhagen—Christiania—Stockholm ...	18 43	18 47

The following exchanges on London were received by telegraph :

Paris, cheques	25f. 19⅛c.
Brussels, do.	25f. 23c.
Berlin, sight	20m. 45⅝pf.
Do., 8 days	20m. 43pf.
Vienna, sight	23k. 95h.
Amsterdam, sight	12fl. 06½c.
Madrid, sight	33p. 71
Italy, sight	25 lire 16c.
Lisbon, sight	42⅝d.
St. Petersburg, 3 months	93r. 75
Bombay, T.T.	1s. 4 1/32d.
Calcutta, T.T.	1s. 4 1/32d.
Hong-Kong, T.T.	1s. 9d.
Shanghai, T.T.	2s. 5½d.
Yokohama, four months	2s. 0 9/16d.
Rio de Janeiro	12d.
Valparaiso, 90 days	16⅜⅜
Buenos Ayres, gold premium	127p.c.
Do., Paper dollar	20.97d.

The following are the rates for money current on the principal Foreign markets :—

—	Bank Rate.	Open Market.	—	Bank Rate.	Open Market.
Paris	3	2 7/8	Madrid and Spanish Bank places	4½	3½
Berlin and German Bank places ...	4	3½	Lisbon	5½	5
			Geneva	4½	3⅞
Amsterdam ...	3½	3⅜	Copenhagen ...	4½	4½
Vienna	3½	3⅜	Stockholm ...	4½	4½
Rome and Italian Bank places ...	5	4	Christiania ...	5	4½
			Bombay	3	—
St. Petersburg ...	4½	nom.	Calcutta	3	—

We find in these tables:

(*a*) The London quotation of St. Petersburg (Bills on St. Petersburg) 25d.

(*b*) The St. Petersburg quotation of London (Bills on London) r. 93.75.

We will compare the two, and find their difference.

The first means 25d. cash for 1 rouble, payable in 3 months;

the second means r. 93.75 cash for £10, payable in 3 months, the Bank of England rate being 4 p.c.; the Russian Bank rate being 4½ p.c.

roubles cash x = £10, 3 months.
3 m. £100 = £99 cash.
cash £1 = 240d. cash.
cash 25d. = 1 rouble, 3 months.
3 m. roubles 100 = 98.88 r. cash.

x = 93.975.

The London quotation 25 therefore corresponds with

the St. Petersburg quotation 93.975, and as the actual quotation in St. Petersburg is only 93.75, there is a difference of

0.225, or about ¼%,

consequently we receive more Russian money—¼% more—for £1 in London than in St. Petersburg.

Supposing we had a debit balance in St. Petersburg to settle: we should owe money in St. Petersburg, so it would be more profitable to buy bills on St. Petersburg in London, and to remit them to St. Petersburg, than to order our business friend in St. Petersburg to draw upon us.

In case we should have a balance in our favour in St. Petersburg, and wished to dispose of it, we should then prefer to buy in St. Petersburg bills on London (also called "**returns**") instead of drawing against it from London. **We would invite the reader not to go any further until that example is perfectly clear. When this is the case, then the following calculations will be found easy enough.**

We will now compare the price of bills **on** London in the various countries with the exchange rates of these countries **in** London.

HOLLAND (AMSTERDAM).

London quotes Amsterdam (Bills on Amsterdam) for — sight = 12.1⅜ ... (1); 3 m. = 12.3⅞ ... (2)

Amsterdam gives the price for London (Bills on London) for — sight = 12.06¼ ... (3)

We will compare these three quotations:

The London prices are expressed in florins and stuivers (1 stuiver = 5 cents, see page 28), and the London quotations are equal to

(1) ... 12.06875 and
(2) ... 12.19375.

The cash value of the 3 m. bill would be, at the Amsterdam money rate of $3\frac{3}{8}$ p.c. (according to the above table),

$$12.19375 - (\tfrac{12.19375}{100} \times \tfrac{3\frac{3}{8}}{4}) = 12.19375 - (\tfrac{12.19}{100} \times \tfrac{27}{32}) =$$

$$12.19375 - 0.103 = \mathbf{12.09.}$$

We have therefore the following three equations:

According to (1) 12 fl. 06875 c. cash = £1 cash.
„ „ (2) 12 fl. 09 c. „ = £1 „
„ „ (3) 12 fl. 0625 c. „ = £1 „

Therefore plan (2) gives for £1 the most Dutch money,
and „ (3) „ £1 „ least „ „

Plan (2) would therefore be the most suitable for transferring money from London to Amsterdam;

Plan (3) would therefore be the most suitable for transferring money from Amsterdam to London;

the former is also described as account-settler by **remittances**, the latter as account-settler by **drafts** or **returns.**

In Amsterdam all foreign bills are quoted in Dutch money for 3 months, with the exception of London and Paris, which are quoted for 2 months and "short" (viz. date). For money orders to Paris ("versements") the buyer bonifies 8 days' interest at the Paris discount rate.

Stamp for bills drawn and payable out of Holland, circulating only by way of endorsement $\frac{3}{10}$°/₀₀, otherwise $\frac{7}{10}$°/₀₀. The year is taken at 360 days. Bills on London are dealt in on every Tuesday and Friday, other bills on every Monday and Thursday at 1 p.m.

Brokerage $\frac{1}{4}$–1°/₀₀.

BELGIUM (Antwerp and Brussels).

Brussels in London: 25.46¼ three m. for £1 cash,

London in Brussels: 25.23 cash for £1 cash,

therefore fr. 25.46¼ three m. = fr. 25.23 cash,

and as the open market rate at Brussels is 3¼ p.c., the discount of a bill of 25.46¼ would amount to

$\frac{25.4625}{100} \times \frac{3\frac{1}{4}}{4} = \frac{25.4625}{100} \times \frac{13}{16}$ = 0 fr. 2069 c., and the **Cash value** would be 25.4625

less 0.2069

25.2556

Conclusion: It would be cheaper to buy for remittance purposes "long Brussels" than drawing on London, and the saving would amount to 2½ centimes (25.255 − 25.23) or be equal to 1°/₀₀.

As return we could take cheque London.

Brussels and Antwerp quote all foreign bills for short paper.

Stamp for bills circulating in the kingdom but drawn and payable out of Belgium ¼°/₀₀, otherwise ½°/₀₀, brokerage ¾°/₀₀ paid by the seller.

GERMANY (Berlin, Hamburg, etc.).

Berlin in London : 20.68 three m. for £1 cash ... (1)

London in Berlin for
- sight : 20.45¾ cash for cheque £1 ... (2)
- 8 days : 20.43 cash for £1—8 days' date (3)
- 3 months : 20.285 cash for £1—3 m. d. ... (4)

Open market rate in Berlin ... 3½ p.c.

London rate ... ... 4 p.c.

A bill on London, 8 days' date, is, on account of the 3 days of grace, only payable after 11 days, the price for sight bills on London is therefore equal to the price of

the former kind of bills **plus** 11 days 4% interest for 20.43 (2½ pf.).

(1).....	20.68 for 3 m.	$3\frac{1}{2}$% p.a. or $\frac{7}{8}$% for 3 months.
less	0.181	$\frac{20.68}{100} \times \frac{7}{8} = 18.10$ pf.
Cash value =	20.499	

(4).....	20.285 for 3 m.	London at 4% p.a. or 1% for 3 m.
plus	0.202	1% of 20.285 = 0.202.
	20.487	

We have therefore the four equations:

(1) m. 20.499 cash = £1 cash.
(2) m. 20.4575 „ = „
(3) m. 20.455 „ = „
(4) m. 20.487 „ = „

the cheapest remittance to Germany would be by plan (1), by way of long bills on Germany, and the most profitable return from Germany by plan (3), by way of 8 days' date bills on London.

All foreign bills in Berlin are quoted for 8 days' or 2 months' date, with the exception of bills on Lisbon (quoted for 14 days and 3 m.d.), London (quoted as above) and St. Petersburg (quoted 8 days and 3 m.d.).

In Berlin there is also a large market in Russian, Austrian and English exchanges for forward delivery (within 1 or 2 or 3 months' time). Bills on Vienna and St. Petersburg are daily dealt in, while bills on the other places are only negotiated on Tuesdays, Thursdays and Saturdays.

Bill stamp $\frac{1}{2}$°/$_{oo}$; foreign bills circulating in Germany but payable abroad do not pay a German stamp.

Brokerage $\frac{1}{2}$°/$_{oo}$ paid by the buyer.

AUSTRIA.

Vienna in London: 24.24½ payable in 3 m. for £1 cash.

London in Vienna: 23k.95h. cash, for £1 cash, therefore k. 24.24½ payable in 3 m. = k. 23.95 cash, and at $3\frac{3}{8}\%$ open market rate in Vienna:

$3\frac{3}{8}\%$ for 1 year or $\frac{27}{32}\%$ for 3 m.

$\frac{24.245}{100} \times \frac{27}{32} = 20.45$h.

Cash value: 24.245 less 0.2045 = **24.04,**

difference between 24.04 and 23.95 = 9 heller or $3\frac{1}{2}{}^{\circ}/_{\circ\circ}$.

Conclusion: It would be cheaper for remittance purposes to buy "long Vienna" than drawing on London, and for returns it would be advisable to ask for cheque London.

In former years large transactions took place daily in bills on London, Paris and Berlin for forward delivery, but these with the introduction of the gold standard have naturally sensibly diminished.

All bills are quoted in kronen currency in form of cheques, and credited as such less discount for the time the bill has still to run, and which is calculated at the foreign Bank rate.

Stamp for bills and their duplicates payable in Austria $1{}^{\circ}/_{\circ\circ}$; bills payable abroad, free. Brokerage, $\frac{1}{2}{}^{\circ}/_{\circ\circ}$.

PARIS.

Paris in London for cheques = 25.21¼... ... ... (1)
„ „ „ 3 months = 25.41¼... ... ... (2)
London in Paris „ cheques = 25.19½... ... ... (3)

Open market rate in Paris ... $\frac{27}{8}\%$

$\frac{27}{4} = \frac{23}{32}\%$, discount for 25.41¼ = 18c.

Cash value of 25.4125
less 0.18
25.2325

We have therefore Paris cheque in London = 25.21¼ ... (1)
" " " " " " = 25.2325 ... (2)
(by way of long bills)
" " " Cheque London in Paris = 25.195 ... (3)

The cheapest of these three quotations for remittances is therefore the purchase of "long Paris" in London,* and the cheapest return a cheque on London:

The difference between remitting to
Paris at 25.2325
and drawing on London at 25.195
would amount to 0.0375c. or 1½°/₀₀.

Foreign bills in Paris are all quoted in French money, and divided into two groups. The one is quoted for **3 months' date,** and includes bills on Austria, Germany, Holland, Portugal, Russia, and Spain; the other is quoted **for sight,** and comprises bills on London, Stockholm, New York, Belgium, Italy, and Switzerland.

Two prices are given for each group: one for long paper ("papier long"), and another for short paper ("papier court").

The short paper of the first group is dealt in **plus** 4% interest **fixed,**

The long paper of the second group is dealt in **minus** Foreign Bank rate.

The division of the quotation into long and short paper was necessary on account of the difference between Bank rate and open market rate in the various commercial centres.

* The acceptances of a few Paris firms, forming the "haute banque," command a better rate, as they can be discounted about ⅛ % below the current French market rate.

A cheque quotation is also given for London, Lisbon, Madrid and St. Petersburg.

Bills payable in France need $\frac{1}{2}°/_{oo}$ stamp, foreign bills only passing through France $\frac{1}{4}°/_{oo}$, cheques if payable on the place of issue 10c., otherwise 20c. Bills due on a Sunday or holiday become due on the preceding day; the seller has to bonify the bill stamp necessary in the country where the bill is payable. Brokerage $1°/_{oo}—\frac{1}{8}\%$.

GREECE.

(1 drachma = 100 lepta.)

Greece became in 1868 a member of the "Union latine" (see page 12), has therefore the same monetary system as France; the unit is called drachma. But the metallic standard degenerated later, a paper currency taking its place, and at present the premium on gold stands at 50%. London is quoted for bills 3 m. d., and short for £1.

Paris „ „ „ 31 days' sight,

all the other places 3 m. d.

At a gold premium of 50%, cheques on London should quote: $25 + \frac{25}{2} = 37.50$, which result is also shown by the following calculation:

curr. drach. x = £1.

1 = 25 dr. gold.

100 = 150 curr. dr.

A three months' bill on London at a London discount rate of 4%, would cost 37.50 − 1% of 37.50 = 37.50 — 0.375 = 37.125 dr.

Bill stamp $\frac{1}{2}°/_{oo}$, brokerage $\frac{1}{2}°/_{oo}$.

ITALY.

Italy (Genoa) quotes in London 25.47½ payable in 3 m. for £1 cash.

London in Italy quotes 25.16 for cheque £1 cash.

Open market rate in Rome 4%, therefore

	25.475	
less $\frac{4}{4}$ = 1% =	0.254	
	25.221	and as cheque London
quotes	25.16	
there is a difference of	0.061	(or nearly $\frac{1}{4}$%)

in favour of "long paper."

Conclusion: For remittances the cheaper way would be by way of long paper, for returns the purchase of cheques London in Italy.

With the exception of Bills on Austria, which are quoted for 30 days' date, all the other prices are given for 3 m. d. bills.

Bill stamp 1°/₀₀, brokerage $\frac{1}{2}$°/₀₀.

SPAIN.

Madrid in London: 35 (pence for 5 pesetas payable in 3 m.).

London in Madrid: 33.70 (pesetas cash) for £1 cheque.

Open market rate in Madrid $3\frac{1}{2}$%.

Therefore $\frac{3\frac{1}{2}}{4} = \frac{7}{8}$ % and of 35 = 0.306 d.

5 pesetas payable at sight would therefore cost 35.306d. In Madrid we would receive 4.9575 p. for 35.306d., according to the equations:

pes. cash x = 35 306d.
240 = 33.7p. cash.

We would therefore receive more Spanish money for 35.306 pence in London than in Madrid, and would buy as remittance to Madrid long bills on Madrid, and for returns from Madrid cheque London.

Spain in Paris quotes for "versement" (money order) 380 (for 500 pesetas)—what is the English equivalent?

d. x = 5 pes. 3 m.
100.875 = 100 pes. cash.
500 = 380 fr.
(price cheque London) 25.20 = 240 d.

x = 35.88

On that very day, therefore, it would have been profitable to buy long Madrid in London, to remit it to Madrid for discount, and to draw against the proceeds from Paris, ordering Paris at the same time to buy and to remit cheque London.

By so doing we did well for ourselves, kept our agents in Paris and Madrid busy, and might reasonably expect an order from them in return. To keep within moderate limits, and not to employ outside-prices, we fix our calculations on the following three prices:

3 months Madrid in London	35.125
Versement „ „ Paris	379
Cheque London „ „	25.20

Let us take £1,000 as capital employed in the operation.

We should have bought for it a bill of pesetas 34,163.70, sent same to Madrid to discount. Our Paris agent had orders to sell a money order on Madrid for pesetas 33,797, and to remit to us the proceeds in cheque London.

Paris would have sold pes. 33,797 at 379	=	fr. 25,618.10 c.
and charged ⅛% brokerage fr. 32.05		
1°/₀₀ commission „ 25.65	= „	57.70
and credited our account with ...		fr. 25,560.40

The account, after having been debited with the same amount as costs of the remitted cheque for **£1,014 6s.**

at 25.20, would have been balanced. The account in Madrid would have been likewise balanced, as the discount 3½% p.a. for 3 m. pesetas 34,163.70 = pes. 298.90

plus Spanish bill stamp = „ 25
¼°/₀₀ disc. comm. = „ 8.60
1°/₀₀ Bankers' comm. = „ 34.20
plus payment of Paris order = „ 33,797

would equalise the bill amount of pes. 34,163.70

In London we had to pay £1 for brokerage, so that the profit on the transaction would have been **£13 6s.**

We may find the result of the operation also in a shorter way. We ask for the rate of exchange the versement was based upon:

d x = 5 pes. 3 m.
100.875 = 100 p. cash.
500 = 379 fr.
25.2 = 240 d.
x = 35.78.

As we actually bought 5 pes. for 35.125 d.,
and sold at the rate of 35.78 d.,
the margin was 0.655 d.,

which represents 1.86% of 35⅛.

The expenses amounted to:

brokerage in London = 10
„ „ Paris = 12.5
commission „ „ = 10
„ „ „ Madrid = 12.5
bill stamp „ „ = 7.5
52.5 or $\frac{52.5}{100}$,

based on the expression of 1% = $\frac{100}{100}$.

which deducted from 1.86 leaves 1.335% net profit, or on £1,000 a net profit of **£13 7s.**

The Spanish bill stamp amounts to about ¼°/₀₀, the brokerage is fixed at 1°/₀₀.

PORTUGAL.

Lisbon in London: $42\frac{1}{16}$d. (cash pence for 1 milr. 3 m.)
London in Lisbon: $42\frac{5}{8}$d. (cash pence for 1 milr. cash.)
Open market rate in Lisbon 5%.

$\frac{5}{4} = 1\frac{1}{4}\%$, which on $42\frac{1}{16} = 0.5257$,

therefore	42.0625	
	+ 0.5257	
	42.5882d.	for sight.
London in Lisbon	42.625	
difference	0.0368	or nearly $\frac{4}{5}$°/₀₀.

It would be therefore more profitable to remit "long Lisbon" instead of drawing upon London; for returns we should buy cheque London.

Lisbon quotes:

- London for 30—60—90 days' date in pence for 1 milreis.
- Amsterdam for 3m. in florins for 16 milreis.
- Paris for 8 days and 3m. in reis for 3 francs.
- Hamburg and Italy for 3m. in reis for 1 mark and 1 lire.
- Spain for 8 days' sight for 5 pesetas.

Bills drawn in Portugal, payable abroad, pay a stamp of $\frac{1}{5}$°/₀₀, all other bills 1°/₀₀. Brokerage 1°/₀₀.

The Lisbon quotation of $42\frac{5}{8}$ for London corresponds with a gold-premium of $25\frac{1}{8}\%$, according to the following calculation:

	currency milr. x	= 100 milr. gold
(see page 32)	$4\frac{1}{2}$	= £1
	1	= 240d.
	$42\frac{5}{8}$	= 1 milr. c.
	x	= 125.12

or gold-premium = $25\frac{1}{8}$°/₀.

COPENHAGEN (CHRISTIANIA AND STOCKHOLM).

London quotes Copenhagen for 3m. bills at 18.45, the open market rate in Copenhagen being 4½% p.a. (or 1⅛% for 3 months), the discount amounts to 0.21, and therefore cheque Copenhagen = 18.45 − 0.21 = **18.24**, which rate shows no margin against the Copenhagen quotation of London.

All foreign bills are quoted in Scandinavian money, and for short and 3m. bills. The bill stamp is only $\frac{1}{6}$‰, and foreign bills payable out of Denmark pay no stamp.

Christiania quotes London like Copenhagen.

Stockholm deals in short and 90 days' date bills on London.

Inland bills pay no stamp, foreign bills for any amount only 1 krona.

UNITED STATES.

The prices of

(*a*)	Cable transfer	London	= 4.84½
(*b*)	Demand bills	,,	= 4.84
(*c*)	60 days' sight bills	,,	= 4.80¼
(*d*)	,, ,, ,, ,,	Berlin	= 94
(*e*)	,, ,, ,, ,,	Paris	= 5.23

are daily cabled from New York and published by the newspapers.

They express the equivalent of £1 or marks 400 in dollars, and the equivalent of $1 in French money.

In order to compare these prices, we have to bring all of them to the level of the Cable transfer price, based on the present London discount rate of 4%.

(*b*) Demand bill = 4.84, which is paid in London 9 days later than Cable transfer, therefore

4% int. 9 days = 0.005

parity = 4.845 against cable transfer price 4.845,

showing consequently no margin whatever.

(*c*) The price of a 60 days' sight bill plus 4% inter. for **72** days (**60** days the bill has to run **plus 9** days, as time for the voyage from New York to London, **plus 3** days as days of grace) would be the parity of the Cable transfer price, therefore

4.8025

\+ 4% inter. 72 days = 0.0379

4.8404 against cabled price of 4.845.

The difference between the two prices

4.845

and 4.8404

amounts to 0.0046c. or nearly 1°/₀₀.

As the price of Demand bills shows no margin whatever against the Cable transfer quotation, we can neglect it, and need only consider 60 days' sight bills.

The cheapest way of transferring money from London to New York would therefore be by "Cable transfer"; the most profitable way for disposing of a credit balance in New York by asking for a 60 days' sight bill on London.

(d) and (e) Bills on Paris and Berlin in New York.

Both places are quoted for 60 days' and 3 days' sight bills, Paris in francs for $1, Berlin in dollars for 400 marks, but generally only the price for 60 days' sight bills is cabled.

In the first instance, we have to work out the interest for the time these bills have to run until they are actually

paid, that is 70 days, such interest calculated at the current discount rates (Paris $2\frac{7}{8}\%$ —Berlin $3\frac{1}{2}\%$).

We find the int. for the Paris bill $= \frac{5.23}{100} \times 2\frac{7}{8} \times \frac{70}{360}$ **= 2.9 centimes,**

and the int. for the Berlin bill $= \frac{94}{100} \quad 3\frac{1}{2} \times \frac{70}{360}$ **= 0.64 dollars.**

A quotation of Paris in New York **5.23** would therefore correspond with the price of cheque on Paris 5.23 − 0.029 = **5.201,**

and a quotation of Berlin bills in New York **94** would be equal to the price of cheque on Berlin of 94 + 0.64 **=94.64.**

The parity price of Paris in New York at the prices:

$4.845 = £1$ cable transfer (in New York),

and francs 25.20 = £1 cheque (in Paris)

would be:

francs x = $1
4.845 = £1
1 = 25.20 fr.
x = 5.201 for sight, Paris, or
+ 0.029 as before explained.
5.230 as New York parity

price of 60 days' sight bills on Paris (viâ London).

The parity price of Berlin in New York at the prices:

$4.845 = £1$ cable transfer (in New York)

and marks 20.46 = £1 cheque on London (in Berlin)

would be:

dollars x = 400 marks
20.46 = £1
1 = 4.845 doll.
x = 94.72 c. for sight Berlin, or
− 0.64
94.08 as New York parity of 60

days' sight bills on Berlin (viâ London).

As the quotation of Paris is expressed in francs, and
„ „ Berlin „ „ dollars,
we must naturally **subtract** the discount in the first case from the New York price, and **add** the discount in the second case to the New York price.*

In the foregoing calculations we have only compared the prices of foreign bills **on London** in the various markets with the prices of bills on these places quoted **in London,** and we learned how to make the best use of those **direct rates** for the transfer of money from one country to another.

But when a foreign market has a large business in various foreign bills, these foreign bills do not always quote at the exact parity price, and a comparison of these prices will show which paper would be more advantageously chosen as remittance or return. In the example given under the heading **Spain** (page 76), it was proved that on that particular day money orders on Spain in Paris were in such demand over the London parity of Spain, that it paid well to sell in Paris a money order on Spain, covering the sale with the purchase of a long Madrid bill in London.

Therefore, before deciding on a transfer of money to a foreign place with a free bill market, we must not only rely on the direct rate, but must study its quotations, and then exercise our best judgment.

Let us take as instance the

PARIS BILL MARKET

and its quotations. The rates which we shall find afterwards will no longer be "direct" rates, but "**indirect or arbitrated**" **rates.** The direct rates (quotation of London in Paris) as already examined, we now leave, and begin at once with bills on :

* The brokerage for bills, which need no stamp, varies from $\frac{1}{8}$ to $\frac{1}{4}$ %.

AMSTERDAM,

which are quoted $206\frac{5}{8}$ + 4% fixed for 3 months' bills,
or $206\frac{5}{8}$ + 1% = 206.62
(fr. $206\frac{5}{8}$ for fl. 100) + 2.06

208.68 for cheques,

and as we know the price of cheque London in Amsterdam (12.0625), we have the following calculation:

fr. x = £1
1 = 12.0625 florins
100 = 208.68 fr.

x = 25.172

Bills on Amsterdam quote therefore at the parity of cheque London **25.172**

The same method we apply to the other foreign bills:

BERLIN

is quoted in Paris for 3 m.: 122 + 4% fixed = 122
(francs 122 for 100 marks) + 1% = 1.22
cheque 123.22

London in Berlin = $20.45\frac{3}{4}$ cheque,
and in the same way as before (20.4575 × 1.2322),
we find parity **25.207**

VIENNA

is quoted in Paris for 3 m.: 104 + 4 % fixed or
(kr. 100 = fr. 105.04) 104 –
+ 1.04 for 3 m.
105.04

London in Vienna 23.955 cheque,
23.955 × 1.0504 = . . **25.162**

ST. PETERSBURG

is quoted in Paris for 3 m. and for "versement" (money order), we take the quotation of the latter: $265\frac{7}{8}$.

London in St. Petersburg 93.75 for 3 m. + 4% p.a.

$$
\begin{aligned}
&= 93.75 + 1\% \text{ of } 93.75 \\
&\quad = 93.75 \\
&\quad + \ 0.93 \\
&\quad \underline{94.68} \\
\text{fr. } x &= £1 \text{ cheque} \\
10 &= 94.68 \text{ r. cash} \\
100 &= 265.875 \text{ fr.} \\
x &= 25.173 \quad . \quad . \quad . \quad \mathbf{25.173}
\end{aligned}
$$

MADRID

is quoted in Paris for "versement" (sight or money order) 373.50

(that is to say fr. 373.50 for pes. 500.)

London in Madrid 33.71 cash.

$$
\begin{aligned}
\text{fr. } x &= £1 \text{ cash} \\
1 &= 33.71 \text{ cash pes.} \\
500 &= 373.5 \text{ fr.} \\
x &= 25.181 \quad . \quad . \quad . \quad \mathbf{25.181}
\end{aligned}
$$

LISBON

is quoted in Paris 440 for 3 m. + 4% p.a. fixed.

(100 milreis = 440 fr.) = 444.40 cheque.
London in Lisbon = $42\frac{5}{8}$d. cheque
fr. x = £1 cheque
1 = 240d.
d. 42.625 = 1 milr. currency
100 = 444.4 fr.

x = 25.021 . . **25.021**

ITALY

is quoted in Paris $\frac{1}{16}$ premium for cheque.

(100 lire = $100\frac{1}{16}$ francs.)
London in Italy 25.16 cheque.
fr. x = £1 cheque
1 = 25.16 lire
100 = 100.0625 fr.

x = 25.175 . . **25.175**

NEW YORK

is quoted in Paris 5.19 for cheque.
London in New York: 4.84 for demand bill.

fr. x = £1 cash
1 = 4.84 dols.
1 = 5.19 fr.

x = 25.12 . . . **25.12**

These calculations put together show that on the day they were made

(a) the direct rates worked out at:

(see page 73.)

£1 equal to francs

25.16	by way of	long bills on London
25.195	„	cheque London
* 25.2325	„	long bills on Paris
25.2125	„	cheque Paris

(b) the arbitrated rates at:

£1 equal to francs

25.172	by way of	bills on	Amsterdam
25.207	„	„	Berlin
25.162	„	„	Vienna
25.173	„	„	St. Petersburg
25.181	„	„	Madrid
* 25.021	„	„	Lisbon
25.175	„	„	Italy
25.12	„	„	New York

The lowest figure, **25.021**, by way of bills on Lisbon, was therefore the cheapest for **returns**,
the highest, **25.2325**, by way of long bills on Paris, the cheapest for **remittances.**

The difference between the lowest and the highest figure shows fr. 0.21 or as much as $\frac{4}{5}\%$, a difference of importance when large amounts of money have to be transferred.

Another large Foreign bill market like Paris is

THE BERLIN BILL MARKET,

especially for Russian bills.

We will therefore examine its bill-list, setting aside the direct rates as already treated.

AMSTERDAM.

London in Amsterdam: 12.06¼ cheque.
Amsterdam in Berlin: 169.55 (8 days) +
3½% p.a. = 169.55 + 0.13. = 169.68.
(f. 100 = m. 169.55).

m x = £1 cash
1 = 12.0625 fl.
100 = 169.68 m.
x = 20.467 . . . **20.467**

ST. PETERSBURG.

London in St. Petersburg: 93.75 for 3 m.
4% p.a., or 94.68 cash.
St. Petersburg in Berlin: 213.60 for 3 m.
4½% p.a., or 213.60
(r. 100 = m. 213.60) + 2.40
216 —

m x = £1 cash
1 = 94.68 r. cash
100 = 216 m.
x = 20.45 **20.45**

VIENNA.

London in Vienna: 23.95½ cheque.
Vienna in Berlin: 85.35 + 8 days 3½% p.a.
= 85.35 + 0.07 = 85.42.
(k. 100 expressed in marks)

m x = £1 cheque
1 = 23.955 k.
100 = 85.42 m.
x = 20.462 . . . **20.462**

PARIS.

London in Paris: 25.175 cheque.
Paris in Berlin: 81.15 for 8 days + 3% p. a.
= 81.20 cheque.
(100 fr. in marks)

m x = £1 cheque
1 = 25.175 fr.
100 = 81.20 m.

x = 20.442 . . . **20.442**

NEW YORK.

London in New York: 4.84 demand bill.
New York in Berlin: 4.22.
($1 in marks.)

m x = £1
1 = 4.84$
1 = 4.22 m.

x = 20.424 . . . **20.424**

BELGIUM.

London in Belgium: 25.23 cheque.
Belgium in Berlin: 80.60 for 2m. and 3¼% p.a.
or $\frac{13}{24}$% for 2m. = 0.44c., 80.60 + 0.44
= 81.04.

m x = £1
1 = 25.23f.
100 = 81.04 m.

x = 20.446 . . . **20.446**

ITALY.

London in Italy : 25.16 cheque.
Italy in Berlin : 81.25 for 10 days + 5% p.a.
cheque price = 81.25 + 0.11 = 81.36.
parity : 81.36 × 0.2516 = . . . **20.47**

As bills on Spain or Portugal have neither of them a free market in Berlin, we leave them out of our consideration.

The arbitrated rates put together give the following table:

£1 equal to marks

20.467	in	Amsterdam	*viâ*	Berlin
20.45	„	St. Petersburg	„	„
20.462	„	Vienna	„	„
20.442	„	Paris	„	„
*20.424	„	New York	„	„
20.446	„	Belgium	„	„
*20.47	„	Italy	„	„

The calculation indicates New York as cheapest, Italy as dearest medium; the former therefore the best for returns, the latter the best for remittances. Of course, all these parities are "**bare parities**," that is, no account has been taken of any expense in connection with the actual transfer of money.

We have already compared the prices which bills on London command on the various markets. We have examined the Paris and Berlin list of Foreign bills, and we will now find out the price of every important exchange rate in the various business centres.

I. We will begin with **PAPER ON AMSTERDAM**, and calculate the English equivalent of bills on Amsterdam quoted in the various countries.

AMSTERDAM FROM BELGIUM.

fl. 100 = fr. 208.50 cheque.
fr. 25.23 = £1 cheque.

fl. x = £1
1 = 25.23fr.
208.5 = 100 fl.
x = 12.10 . . . **12.10**

AMSTERDAM FROM BERLIN.

fl. 100 for 8 days, or 2 m. in marks,
We take 2 months' paper = m. 168.60.
Amsterdam rate 3½%, *i.e.*, $\frac{3\frac{1}{2}}{6} = \frac{7}{12}\%$ for 2 months, which of 168.60 = 0.98, and therefore cheque Amsterdam = 169.58; and as £1 = 20.46, we find $x = \frac{20.46}{1.6958} =$ **12.065**

AMSTERDAM FROM PARIS.

fl. 100 payable in 3 m. = fr. $206\frac{7}{8}$.
and £1 cheque = fr. 25.20.
We can work out the discount on the Dutch or on the French money, both ways leading to the same result. We prefer the latter way in order not to alter the figure 100, which is very convenient to calculate with.
The Amsterdam discount rate being 3½% p.a., or $\frac{3\frac{1}{2}}{4} = \frac{7}{8}\%$ for 3 months, and $\frac{7}{8}\%$ of $206\frac{7}{8} = 1.81$, therefore 208.68 the cheque equivalent, and $x = \frac{25.20}{2.0868} =$. **12.075**

AMSTERDAM FROM VIENNA.

Vienna quotes all foreign bills in form of cheques, which for the calculation of parities is very convenient.

Amsterdam is quoted 198.75 *i.e.*, kronen 198.75 for fl.100 cheque.

London in Vienna: kr. 239.50 (for £10 cheque)

therefore $x = \frac{23.95}{1.0875} =$ **12.05**

II. BRUSSELS AND ANTWERP from:

AMSTERDAM.

100 francs 3 m. = fl. 47.30

£1 = 12.0625

discount rate Amsterdam 3½%

100 fr. sight = $47.30 + (\frac{3\frac{1}{2}\%}{4} \times 47.30) = 47.30$

$+ \ 0.41$

47.71

$x = \frac{1206.25}{47.71} =$ **25.27**

BERLIN.

100 francs 2 m = m. 80.60

£1 = 20.46

disc. rate at Brussels 3½% p.a. or $\frac{3\frac{1}{2}}{6} = \frac{13}{24}$ for 2 m.

$80.60 \times \frac{13}{24}\% = 0.44$, cheque Brussels $= 80.60$

$+ \ 0.44$

81.04

$x = \frac{2046}{81.04} =$ **25.246**

PARIS.

Quotation "$\frac{1}{4}$ loss" i.e. fr. 100 Belg. money
= fr. 99.75 French money
£1 = 25.20
$x = \frac{25.20}{99.75}$ = ... **25.263**

III. BERLIN from:

AMSTERDAM.

fl. 58.50 for m. 100 — 3 m.
£1 = 12.0625 cheque
discount rate 3½% p.a., or for 3 m. = $\frac{3\frac{1}{2}}{4} = \frac{7}{8}$%
of 58.50 = 0.51
therefore 58.50 + 0.51 = 59.01
$x = \frac{1206.25}{59.01}$ = ... **20.441**

BELGIUM.

fr. 123.50 for cheque m. 100
£1 = 25.23
$x = \frac{25.23}{1.235}$ = ... **20.43**

MADRID.

pes. 162.50 for m. 100 three m.
£1 = p. 33.70
Berlin disc. rate 3½% p.a. for 3 m. = $\frac{3\frac{1}{2}}{4} = \frac{7}{8}$%
$\frac{7}{8}$% of 162.50 = 1.42
therefore 162.50 + 1.42 = 163.92
$x = \frac{33.70}{1.6392}$ = ... **20.557**

LISBON.

reis 272 for 1 mark 3 m.
d. $42\frac{5}{8}$ = 1 milreis
Berlin disc. rate $3\frac{1}{2}$% p.a. or $\frac{7}{8}$% for 3 m.
therefore 272 + 2.38 = 274.38

m x = £1
1 = 240d.
42.625 = 1,000 reis
274.38 = 1 m.

x = 20.52 . . **20.52**

PARIS.

fr. 122 for m. 100 three m.
£1 = 25.20
disc. rate in Berlin $3\frac{1}{2}$% p.a. or $\frac{7}{8}$% for 3 m.
= 122 + 1.07 = 123.07
$x = \frac{25.20}{1.2307}$ = ... **20.476**

ST. PETERSBURG.

r. 45.90 for m. 100 three m.
r. 93.75 for £10 — 3 m.
disc. rate in Berlin $3\frac{1}{2}$% p.a. or $\frac{7}{8}$% for 3 m.
„ „ St. Petersburg $4\frac{1}{2}$% p.a. or $1\frac{1}{8}$% for 3 m.

45.90	93.75
+ 0.40	+ 1.06
46.30	94.81

m x = £1
10 = 94.81 r.
46.30 = 100 m.

x = 20.477 **20.477**

VIENNA.

kr. 117 = m. 100 cheque
kr. 23.95 = £1 cheque
$x = \frac{23.95}{1.17} =$ **20.47**

IV. VIENNA from:

AMSTERDAM.

fl. 50 for 100 k. 3 m.
£1 = 12.0625
discount rate in Vienna $3\frac{3}{8}\%$ p.a. or $\frac{33}{4} = \frac{27}{32}\%$ for 3 m.
50 + 0.42 = 50.42
$x = \frac{1206.25}{50.42} =$ **23.92**

BERLIN.

m. 85.35 for 100kr. 8 days, or at the Vienna discount rate of $3\frac{3}{8}\%$ p.a. = 85.35 + 0.064 = 85.41 for cheque.
£1 = 20.46.
$x = \frac{2046}{85.41} =$ **23.955**

PARIS.

fr. 104 for 100kr. 3m.
£1 = 25.20.
Vienna disc. rate $3\frac{3}{8}\%$ p.a. or $\frac{33}{4} = \frac{27}{32}\%$ for 3m., therefore 104 + 0.88 = 104.88.
$x = \frac{25.20}{1.0488} =$ **24.027**

V. PARIS from:

AMSTERDAM.

fl. 47.50 for 100 fr. 2m.

£1 = 12.0625.

Paris disc. rate 3% p.a. or $\frac{3}{6} = \frac{1}{2}\%$ for 2m.

therefore 47.50 + 0.24 = 47.74.

$x = \frac{120625}{4774} =$ **25.267**

BELGIUM.

fr. 100 Paris cheque = fr. $100\frac{1}{8}$ Belg. cheque.

£1 = 25.23.

$x = \frac{25.23}{1.00125} =$ **25.20**

BERLIN.

m. 81.15 for fr. 100 — 8 days, or 81.20 for cheque

£1 = 20.46.

$x = \frac{2046}{81.20} =$ **25.20**

MADRID.

pes. 33 premium for fr. 100 — 3m.

£1 = pes. 33.70.

Paris disc. 3% p.a. or $\frac{3}{4}\%$ for 3m., therefore

133 + 1 = 134.

$x = \frac{33.7}{1.34} =$ **25.90**

LISBON.

reis 673 for fr. 3 cheque

reis 1,000 = $42\frac{5}{8}$d. cheque

fr. x = £1
1 = 240d.
$42\frac{5}{8}$ = 1,000 r.
673 = 3 fr.

x = 25.10 . . **25.10**

ST. PETERSBURG.

r. 37.25 for fr. 100—3 m.
r. 93.75 for £10—3m.
Paris disc. rate = 3% p.a. or $\frac{3}{4}$% for 3 m.
St. Petersburg disc. rate = $4\frac{1}{2}$% p.a. or $1\frac{1}{8}$% for 3 m.

	37.25	93.75
+	0.28	+ 1.05
	37.53	94.80

$x = \frac{94.80}{3.753} =$ **25.26**

VIENNA.

k. 95.20 for fr. 100 cheque
kr. 239.50 = £10 cheque
$x = \frac{2395}{95.2} =$ **25 157**

All these calculations brought together give the following

"PARITY TABLE,"

which indicates immediately the most profitable remittance or return, and which will be a useful guide for purchases and sales to be effected on "change" in case of unexpected price fluctuations during market time.

	Amsterdam.	Brussels.	Berlin.	Vienna.	Paris.	St Petersburg.	Madrid.	Lisbon.
Amsterdam from	12.06¼	12.10	12.065	12.05	12.075	—	—	—
Brussels „	25.27	25.23	25.246	—	25.263	—	—	—
Berlin „	20.441	20.43	20.46	20.47	20.476	20.477	20.56	20.52
Vienna „	23.92	—	23.955	23.95	24.027	—	—	—
Paris „	25.267	25.20	25.20	25.157	25.20	25.26	25.90	25.10

Bills payable in commercial centres outside Europe appear very rarely on the London market. The international trade of countries beyond the seas is carried on mostly by bills on New York or European cities, and the sums of money for which they are drawn are nearly always expressed in the currency of the United States or of the European countries. Their equivalent in the money of the issuing place is easy enough to find.

In the exchange list of "The Times" to which we referred on page 65 we find also quoted:

1. Rio de Janeiro, 12d.
2. Valparaiso, $16\frac{25}{32}$d.
3. Buenos Ayres, 127 p.c. gold premium,

and in some newspapers we find also given:

4. Buenos Ayres, $21\frac{1}{4}$d.
5. Buenos Ayres, $48\frac{1}{2}$d.
6. Montevideo, 52d.
7. Mexico, 22d. cheque.

(1). **The Rio de Janeiro quotation** means 1 milreis currency for 12d., payable 90 days' sight, or after 110 days (as the voyage and the 3 days of grace must be taken into consideration). At the Bank of England discount rate of 4%, the discount of such bills would amount to 0.15d., the relation between Brazilian currency and English money would then be 1,000 reis cash = 11.85d. cash.

(2). **Valparaiso bills** on London are quoted for 90 days' sight, and therefore become payable only after 134 days—for reasons stated above—for which time a 4% disc. would amount to 0.24d., and the parity would therefore be $16\frac{25}{32} - \frac{1}{4} = 16\frac{17}{32}$d. for 1 peso.

(3) (4) (5). With regard to the **Argentine currency**, we refer to page 33, where we found the value of the

Argentine paper dollar (at a gold premium of 127 p.c.) equal to 20.95d. Bills on London in Buenos Ayres are quoted for 90 days' sight, either in paper or gold dollars. As such bills are only payable after 115 days, the London discount would amount to 0.27d. in case the bill is given in exchange for paper dollars, or to 0.60d. in case the equivalent of the sterling sum is settled in gold dollars. These discounts deducted from the telegraphed prices

21.25 — 0.27 = **20.98d.**
and **48.50** — 0.60 = **47.90d.**

give the parity.

(6). **Montevideo** quotes the price of bills on London for 90 days' sight in pence. The London discount for 114 days' at 4% = 0.66d. deducted from the cabled price 52d. = **51.34d.** shows the parity of the peso, which is above the Mint parity of 50.98 (see page 31).

(7). **Mexico** quotes London in form of cheques or bills payable after 60 or 90 days' sight. The above stated price of 22d. cheque London is the equivalent of 1 dollar, and requires no further comment.

EASTERN EXCHANGES.

The great majority of Eastern nations use silver—in form of coins or bars—as medium of exchange; therefore the Eastern rates of exchange must rise and fall with the price of silver.

Japan and India are exceptions; the currency of Japan is based upon gold, whilst that of India is no longer one of silver alone, since the sovereign has been given a fixed value of 15 rupees, and since the Mints have been declared closed for the coinage of silver. The "rupee" now represents 16 pence in gold, just as the 5-franc piece (silver) passes throughout the world as 5 francs in gold.

The exchange parity which governs India's foreign trade is expressed by the equation: "1 sovereign = 15 rupees," and on that basis the India Council draws large sums on India weekly in form of bills on demand and telegraphic rupee transfers, using the sterling equivalent for discharging payments in England on behalf of the Indian Empire (*e.g.*, interest on Indian sterling loans, salaries, pensions, etc.).

The actual price of telegraphic transfers depends upon the demand for rupees.

The exchanges are cabled daily from the East in the following form:

Bombay and Calcutta: telegraphic transfer 1s. $4\frac{1}{32}$d., expressing the equation: 1s. $4\frac{1}{32}$d. cash = 1 rupee cash.

Hong-Kong: t.t. 1s. 9d., expressing the equation: 1s. 9d. cash = 1 Hong-Kong dollar cash.

Shanghai: t.t. 2s. 5½d., expressing the equation: 2s. 5½d. cash = 1 tael currency cash.

Yokohama: four months' sight bills: 2s. $0\frac{11}{16}$d., expressing the equation: 2s. $0\frac{11}{16}$d. payable in 4m. = 1 yen cash.

Singapore: the rate is generally 2% above that of Hong-Kong.

The first three quotations do not require explanation, while the Japanese price can only be brought to the parity level by deducting the London discount—at present 4% — for 161 days, for reasons already given. This discount comes to 0.42d., and the parity would be 2s. $0\frac{11}{16} - \frac{7}{16}$ = 2s. 0¼d. cash for 1 yen cash.

We will now calculate exchange-pars between

India and: (1) England, (2) Hong-Kong, (3) Shanghai, (4) Japan.

Hong-Kong and: (5) England, (6) Shanghai, (7) Japan.

Shanghai and: (8) England, (9) Japan.

Japan and: (10) England.

I. INDIA AND ENGLAND.

A parity of exchange between the two countries can be found by silver bars "17 B"—which we treated before on pages 43, 44, 45—gold, Mexican dollars, and 3½% Rupee Government Bonds, of which later on, see page 163.

Gold in India is quoted for 1 tola pure gold, therefore the equations:

$$\begin{aligned} \text{rupees } x &= 1 \text{ tola} \\ 1 &= \tfrac{3}{8} \text{ oz.} \\ 1 &= 84.95\text{s. (see page 19)} \\ 1 &= 12\text{d.} \\ \text{price t.t. in pence} &= 1\text{r.} \end{aligned}$$

$$x = \frac{382.275}{\text{price t. t. in pence}}$$

At the par value of the rupee (16d.), x would be $\frac{382.275}{16} =$ **23.89.**

The gold dealt in is called "100 touch," or "24 carats" gold, and divided into three groups:

(1) Gold assayed by the Indian Mints is the cheapest, and generally quoted at the above parity.

(2) English or Australian bar gold, which is usually ½% dearer than the preceding, and

(3) Chinese leaf, generally 1¼% dearer than gold assayed by the Mints.

Mexican Dollars

have no market in India, and can only be disposed of there for the silver they contain. A shipment of such dollars to India would then be based on the following bare parity:

$$\begin{aligned} \text{rupees } x &= 100 \text{ Mex. doll.} \\ 1 &= 374 \text{ grains pure silver (see page 46)} \\ 180 &= 1 \text{ tola} \\ 996 &= 1{,}000 \text{ tolas bars} \\ 100 &= \text{Indian price bars} \\ \hline x &= 2.086 \times \text{Indian price silver bars} \end{aligned}$$

Sometimes there is a demand in Bombay for **Maria Theresa thalers** as remittance to East Africa, and then their price is above their intrinsic value.

2. INDIA AND HONG-KONG.

To establish a parity between these two colonies, silver bars (17 B), and gold—in form of sovereigns, or bars $\frac{980}{1000}$ fine, or leaf (pure gold)—may be used.

Silver Bars.

rupees x = 100$
Hong-Kong price bars = 71.7 Canton taels weight
1 = 1.208 oz. (see page 49)
$\frac{3}{8}$ = 1 tola
100 = Indian price of bars

$$x = 230.9 \times \frac{\text{Indian price silver bars}}{\text{Hong-Kong price silver bars}}$$

Sovereigns.

$$1 \text{ rupee} = \frac{\text{Hong-Kong price sov. in \$}}{15}$$

Gold.

rupees x = $100
Hong-Kong price pure gold in $ = 1 Canton tael w.
1 = 1.208 oz.
$\frac{3}{8}$ = 1 tola
1 = Indian price

$$x = 322.1 \times \frac{\text{Indian price gold}}{\text{Hong-Kong price pure gold}}$$

Hong-Kong quotes gold in form of leaf (pure gold) and bars of a fineness of $\frac{980}{1000}$. We based the preceding calculation on pure gold.

3. INDIA AND CHINA.

As exchange mediums between the two countries can be used: silver bars (17 B), and gold ($\frac{980}{1000}$).

Silver Bars.

rupees x = 1 tael currency
price bars Shanghai in curr. = 1 tael Canton w.
1 = 1.208oz.
$\frac{3}{8}$ = 1 tola
100 = Indian price of bars

$$x = 3.221 \times \frac{\text{Indian price}}{\text{Shanghai price}}$$

Gold.

rupees x = 1 tael currency
Shanghai price gold = 10 taels weight Shanghai
1 = 552 916 grains pure gold (see page 51)
180 = 1 tola
1 = price gold India

$$x = 30.7 \times \frac{\text{Indian price}}{\text{Shanghai price}}$$

4. INDIA AND JAPAN.

rupees x = 100 yens
Γ = $\frac{3}{4}$ grammes pure gold
31.1 = 1 oz.
$\frac{3}{8}$ = 1 tola
1 = price gold India

$$x = 6.43 \times \text{Indian price gold}$$

5. HONG-KONG AND ENGLAND.

Gold.

d. x = $1
Hong-Kong price pure gold = 1 Canton tael weight
1 = 1.208 oz.
1 = 84.95s.
1 = 12d.

$$x = \frac{1231.435}{\text{Hong-Kong price pure gold}}$$

Silver Bars.

d. x = $1
Hong-Kong silver bars = 71.7 taels
1 = 1.208 oz.
1,000 = 996 (17 B.)
925 = 1,000
1 = London silver price 1 oz.

$$x = 93.26 \times \frac{\text{London price silver oz. stand}}{\text{Hong-Kong price silver bars}}$$

Mexican Dollars.

d. x = \$1
Hong-Kong price Mexican = 100 Mexican dollars
1 = 0.8677 oz.
1 = London price of 1 oz. Mex.

$$x = 86.77 \times \frac{\text{London price oz. Mex.}}{\text{Hong-Kong price Mex.}}$$

Or, taking the Mexican dollar equal to the Hong-Kong dollar, we may employ the following equations:

d. x = \$1
100 = 71.7 Canton taels
1 = 1.208 oz.
1 = London price Mex. oz.

$$x = 0.866 \times \text{London price oz. Mex. dollar}$$

Clean ("unchopped") Mexican dollars always command premium in Hong-Kong, and are counted, and not weighed. At present the premium amounts to 5%, *i.e.*, 100 Mex. doll. = 105 Hong-Kong dollars.

6. HONG-KONG AND SHANGHAI.

Gold.

\$ x = 1 tael currency
price gold Shanghai = 10 taels gold (98 touch) = 552.916 grains pure
580 = price Hong-Kong

$$x = 9.533 \times \frac{\text{price Hong-Kong pure gold}}{\text{price Shanghai}}$$

Silver Bars.

\$ x = 1 tael currency
Shanghai price silver bars = 100 taels weight
71.7 = (100 + premium) dollars (Hong-Kong price silver)

$$x = 1.394 \times \frac{\text{Hong-Kong price silver}}{\text{Shanghai price silver}}$$

Mexican Dollars.

$$\$\, x = 1 \text{ tael curr.}$$
$$\text{price Shanghai Mex.} = 100 \text{ Mex. d.}$$
$$100 = \text{price Mex. in H.}$$

$$x = \frac{\text{price Mex. in H.}}{\text{price Mex. S.}}$$

7. HONG-KONG AND JAPAN.

Gold.

$$\$\, x = 100 \text{ yens}$$
$$1 = \tfrac{3}{4} \text{ grammes pure}$$
$$31.1 = 480 \text{ grain}$$
$$580 = 1 \text{ tael w.}$$
$$1 = \text{Hong-Kong price pure gold}$$

$$x = 1.99578 \times \text{Hong-Kong price pure gold}$$

8. SHANGHAI AND ENGLAND.

Silver Bars.

$$\text{d. } x = 1 \text{ tael curr.}$$
$$\text{Shanghai price bars} = 100 \text{ t.w.}$$
$$1 = 1.208 \text{ oz.}$$
$$1{,}000 = 996 \text{ fine}$$
$$925 = 1000 \text{ Eng. st.}$$
$$1 = \text{London price 1 oz. stand.}$$

$$x = 130 \times \frac{\text{London silver price}}{\text{Shanghai silver price}}$$

Mexican Dollars.

$$\text{d. } x = 1 \text{ tael currency}$$
$$\text{price Mex. doll. in t. c.} = 100 \text{ Mex. doll.}$$
$$100 = 86.77 \text{ oz.}$$
$$1 = \text{London price oz. Mex. doll. in pence}$$

$$x = 86.77 \times \frac{\text{price oz. Mex. doll.}}{\text{Price Mex. doll in Shanghai}}$$

Gold.

d. x = 1 tael currency
price gold in Shanghai = 10 taels weight
1 = 564.2 grains
480 = 1 oz.
1000 = 980 fine
11 = 12 oz. English standard
1 = 77.875s. (see page 18)
1 = 12d.

$$x = \frac{11{,}743}{\text{price gold Shanghai}}$$

9. SHANGHAI AND JAPAN.

Gold.

taels x = 100 yens
1 = $\frac{3}{4}$ grammes pure gold
31.1 = 480 grains
552.916 = 1 tael weight
10 = price in curr. t.

$$x = 0.2093 \times \text{price gold Shanghai}$$

10. JAPAN AND ENGLAND.

See page 29.

In the preceding calculations no account has been taken of the expenses connected with the shipment of the precious metals, as freight, insurance, brokerages, interest on the money employed, etc.; **these expenses, varying from 1 to 2%, depending upon the length of the voyage, have to be added to, or to be subtracted from, the established parity, according to the direction of the shipment.**

Sometimes it pays well not to make direct remittances to an Eastern place, but to employ another Eastern commercial centre as intermediary for the settlement, and to operate with telegraphic money transfers through London.

PARITIES BETWEEN NEW YORK AND THE EAST.

A considerable part of the international trade of the countries beyond the seas is, as already stated (page 98), carried on by means of bills on New York, and for that reason we will calculate the pars of exchange between these countries and New York.

1. PAR BETWEEN NEW YORK AND INDIA.

The following equations show the relation between United States and Indian money.

$$\begin{aligned} \text{rupees } x &= 1\$ \\ \text{(page 23) } 4.8666 &= £1 \\ 1 &= 15\text{r.} \\ \hline x &= 3.0822 \end{aligned}$$

A par between New York and India can also be established by silver and gold.

Silver.

$$\begin{aligned} \text{rupees } x &= 1\$ \\ 1 &= 100 \text{ cents} \\ \text{N. Y. price silver} &= 1 \text{ oz. pure} \\ \tfrac{3}{8} &= 1 \text{ tola pure} \\ 996 &= 1{,}000 \text{ full} \\ 100 &= \text{Indian price} \\ \hline x &= 2.677 \times \frac{\text{Indian price}}{\text{N. Y. price}} \end{aligned}$$

Gold.

rupee x = 1$
800 = 38.7 oz. pure
$\frac{3}{8}$ = 1 tola
1 = price gold India in rup.

x = 0.129 × price gold India.

Mexican Dollars

have, as stated on page 102, no market in India, and can there only be sold for the silver they contain. A shipment of such dollars from New York to India would then be based on the following bare parity:

rupees x = $1 U.S. = 100 cents
New York price Mex. doll. = 1 Mex. doll.
1 = 374 grains pure silver*
180 = 1 tola
996 = 1,000 tolas bars
100 = Indian price bars

$$x = 2.086 \times \frac{\text{Indian price bars}}{\text{New York price Mex. doll.}}$$

2. PAR BETWEEN NEW YORK AND HONG-KONG.

Gold.

Hong-Kong $ x = $1 U.S.
800 = 38.7 oz. pure (43 oz. $\frac{900}{1000}$)
1.208 = 1 Canton tael wt. pure gold
1 = H. $ price

x = 0.04 × Hong-Kong price pure gold

* As New York quotes the price of 1 oz. pure silver, the parity of the New York price of Mex. doll. is 0.7791 × New York silver price.

Silver.

Hong-Kong $ x = $1 U.S. (100 cents)
New Y. silver price in cents = 1 oz. pure silver
996 = 1000 full
1.208 oz. = 1 tael weight
71.7 = Hong-Kong price of silver in $

$$x = 1.159 \times \frac{\text{Hong-Kong price silver}}{\text{New York price silver}}$$

Mexican Dollars.

Hong-Kong $ x = $1 U. S. = 100 cents
price Mex. doll. in N. Y. = 100 Mex. doll.
100 = price Mex. doll. in Hong-Kong

$$x = \frac{\text{price Mex. doll. in Hong-Kong}}{\text{price Mex. doll. in N. Y.}}$$

3. PAR BETWEEN NEW YORK AND SHANGHAI.

Gold.

$ x = 1 tael currency
price gold in Shanghai = 10 taels weight
1 = 564.2 grains
480 = 1 oz.
1000 = 980 fine
900 = 1000 full oz.
43 = 800$

$$x = \frac{238.12}{\text{price gold in Shanghai}}$$

Silver.

cents x = 1 tael currency
price bars Shanghai = 100 taels weight
1 = 1.208 oz.
1000 = 996 fine
1 = N. Y. price silver in cents.

$$x = 120.31 \times \frac{\text{New Y. silver price}}{\text{Shanghai price bars}}$$

Mexican Dollars.

cents x = 1 tael currency
price Mex. doll. in t. c. = 100 Mex. doll.
1 = price Mex. doll. in N. Y. in cents

$$x = 100 \times \frac{\text{price N. Y. of Mex. doll.}}{\text{price Shanghai of Mex. doll.}}$$

4. PAR BETWEEN NEW YORK AND JAPAN.

$ x = 1 yen
1 = 0.75 grammes pure gold
31.1 = 1 oz. pure gold
38.7 = 800 $

x = 0.49851

COUPONS.

All due coupons can be considered as cheques on the place at which they are payable, their value can be found accordingly, and they therefore do not require any comment.

We will only mention the coupons of the old Russian loans whose nominal value is expressed in gold roubles, of which 1 is equal to 38.05d. (see page 26). These coupons can be used in payment of customs in Russia, and are dealt in largely on the Berlin Bourse under the denomination of "Zollcoupons." Their Berlin parity depends therefore on the price of cheque London in Berlin, and can be found according to the following equations:

$$\begin{aligned} \text{marks } x &= 38.05\text{d.} \\ 240 &= £1 \\ 1 &= 20.45\text{m. (cheque price)} \\ \hline x &= 3.242\text{m.} \end{aligned}$$

Foreigners are exempt from the payment of the English income-tax laid on coupons payable in Great Britain, provided they furnish with their coupons an "Affidavit" duly signed and certified, declaring the statements contained therein as made on oath. The English stamp for such an Affidavit amounts to 2s. 6d.

SOME STATISTICAL FIGURES.

As already stated, the commerce of the world as regards payments, is carried on mostly by bills of exchange; and the trade payments from one nation to another, as shown by the import and export-lists of the various countries, require **annually** money transfers for a sum of about

£4,000,000,000.

The figure includes the international trade of:

The British Empire	with	...	£1,000,000,000
The United States	,,	...	450,000,000
Germany	,,	...	450,000,000
France	,,	...	380,000,000
Netherlands	,,	...	320,000,000
Belgium	,,	...	160,000,000
Russia	,,	...	150,000,000
Austria-Hungary	,,	...	140,000,000
China (Treaty Ports)	,,	...	55,000,000
Japan	,,	...	50,000,000

The commerce between the United Kingdom and the United States takes the first place in the list of the dealings between any two nations, as it amounts to £170,000,000, of which £127,000,000 represent the United Kingdom's imports from the United States, and £43,000,000 the exports of Great Britain to the United States.

The **World's production of gold and silver** in 1903 was the following:

	Gold of an approximate value of	Silver of an approximate value of
The British Empire produced	£34,000,000	£1,000,000
The United States ,, ...	15,000,000	6,000,000
The other countries ,, ...	19,000,000	11,000,000
Total	£68,000,000	£18,000,000

The expenses connected with the production of 1 oz. silver amount in the average to 25¼d. (a few very rich Australian mines produce at 17d.), while the average cost of production of gold comes to 21 shillings per ton of ore.

The principal Mints are situated in:

London (Royal Mint), Birmingham (limited company), Melbourne, Perth, Sydney, Calcutta, Bombay, Paris, Philadelphia, San Francisco, Carson City, New Orleans, Berlin, Munich, Dresden, Stuttgart, Carlsruhe, Hamburg, Bern, Brussels, Vienna, Kremnitz, St. Petersburg, Stockholm, Copenhagen, Utrecht, Lisbon, Madrid, Constantinople.

Every European note-issuing bank has established branches or agencies, and **bills payable at a place with such a branch or agency may be discounted at the head office at the fixed discount rate, without any further charge, and money may be transferred from one office to another.**

We conclude this section with a list of such towns in the principal countries, giving at the same time a short résumé of the various **bank returns**, showing the nature of the fiduciary moneys at a glance.

THE BANK OF ENGLAND,

established in 1694 with the comparatively small capital of £1,200,000, after the scheme of William Patterson, has been re-organised several times. The advances of money the Bank made to the English Government on various occasions, and amounting to £11,015,100, are still in abeyance, but in consideration of them certain privileges were granted to the Bank. There are still 71 banks in the United Kingdom (the most important of which are in Ireland), which have the right to issue notes for a total of £10,500,000; their number is, however, steadily decreasing.

From 1797-1821, during the time of the "bank-restrictions," the Bank was unable to pay its notes in gold, which in consequence stood at a premium, sometimes as high as 30%.

In 1816 the Bank capital was increased to its present amount of £14,500,000, and in 1844 Parliament passed a new Act, drawn up by Sir Robert Peel, which has regulated the business of the Bank ever since. According to it, the Bank was divided into two separate departments, one for

issue of notes, and the other for ordinary banking business. The issuing department can issue any amount of notes, providing there is the deposit of their gold equivalent. Beyond that equivalent it can at present only issue non-covered notes for £18,450,000 (in 1844 the limit was £14,000,000), but in the critical years 1847, 1857 and 1866 the Bank was obliged, in order to help commerce, to exceed that fixed amount. The banking department receives all the issued notes, and the unemployed notes, together with the gold and silver coins in hand, appear as "**reserve**" in the weekly Bank return, published every Thursday; and the proportion of reserve to liability (deposits) is a guiding item for a return under examination.

The Bank of England is the banker to the Government, receiving for the account-keeping a yearly sum of £198,000, but the Bank pays to the Treasury an annual stamp duty of £180,000.

The English Government has no vote in the election of the governing body of the Bank, which is entirely left to its shareholders, while in other countries similar elections depend on the Ministry.

The Bank has only eleven Branches (as it does not seek to increase its ordinary banking business), two in London, Burlington Gardens, W., and Temple Bar, W.C., and nine in the country:

Birmingham — Bristol — Hull — Leeds — Liverpool — Manchester—Newcastle-on-Tyne—Plymouth—Portsmouth.

We print below the following cutting from a Friday's "Times" giving the Bank return of the previous Thursday, remarking that the item "**rest**" means the undivided profit:

BANK OF ENGLAND.

ISSUE DEPARTMENT.

Notes Issued	£46,927,885	Govt. Debt	£11,015,100
		Other Securities ...	7,434,900
		Gold Coin and Bullion	28,477,885
	£46,927,885		£46,927,885

BANKING DEPARTMENT.

Proprietors' Capital	£14,553,000	Govt. Securities.....	£19,234,927
Rest	3,159,564	Other Securities ...	24,841,288
Public Deposits* ...	7,563,530	Notes	18,521,450
Other Deposits.....	39,131,387	Gold and Silver Coin	1,950,029
Seven-day and other Bills.....	140,213		
	£64,547,694		£64,547,694

* Including Exchequer, Savings Banks, Commissioners of National Debt, and Dividend Accounts.

The return from the Bank of England for the last week gives the following results, when compared with the previous week :

Rest.....	£3,159,564	...	Increase	£10,960
Public Deposits	7,563,530	...	Decrease	33,090
Other Deposits	39,131,387	...	Increase	269,164

On the other side of the account :

Government Securities .	£19,234,927	...	Increase	£228,000
Other Securities	24,841,288	...	Increase	567,300
Notes Unemployed	18,521,450	...	Decrease	388,730

The amount of notes in circulation is £28,406,435, being an increase of £43,130, and the stock of coin and bullion in both departments is £30,427,914, showing, when compared with the preceding return, a decrease of £477,971. As £62,000 in gold was withdrawn for export, about £416,000 in coin appears to have been taken into circulation.

Subjoined is a comparison of the position of the Bank of England and the Money Market, with the corresponding week of last year :

	At present.	Same week last year.
Coin and Bullion	£30,427,914	£31,148,760
Total Reserve	£20,471,479	£20,523,895
Proportion of Reserve to Liabilities .	43¼ per cent.	44⅛ per cent.
Notes in Circulation	£28,406,435	£28,799,865
Total Deposits	£46,694,917	£46,417,679
Securities in Banking Department...	£44,076,215	£43,756,031
Bank Rate of Discount	4 per cent.	4 per cent.
Open Market ditto	3¾ per cent.	3⅞ per cent.

This return (published in November, 1903) states

amongst other facts that notes in circulation amounting to
£28,406,435 were
based on gold of a value of £30,427,914,
or for every £5 note there was more than £5 gold in stock.

THE BANQUE DE FRANCE,
(PARIS),

the only note-issuing Bank in France, was founded by Napoleon I. in 1800, and has, considering its enormous stock in gold and silver, a very moderate capital, viz., £7,300,000 (when we take £1 = fr. 25).

One-third of the issued notes must be covered by gold and silver, without fixing a proportion between the two metals, the rest of the notes must be covered by French Rentes and Bills of Exchange with at least three signatures.

In the year 1848 and during the period 1870-1877 the Bank was unable to pay its notes in metal.

The French Government appoints the Governor and the two Deputy Governors.

According to the weekly bank returns the Banque de France has a
Note circulation of about £170,000,000
(nearly six times as large as the note circulation of the Bank of England) covered by
£95,000,000 gold
and £44,000,000 silver
which corresponds with a metallic cover of fr. 82 for each note of fr. 100, of which fr. 56 are in gold and fr. 26 in silver. The "Chambre de Compensation de Paris" (a syndicate of eleven of the most important Paris banking firms) was formed in 1872, after the model of the "London Clearing House."

The Banque de France acts as banker to the French Government.

The Bank has branches at the following places:

Agen—Aix—Ajaccio—Alais—Albi—Alençon—Amiens — Angers — Angoulême — Annecy — Annonay — Arras — Aubusson—Auch—Aurillac—Autun—Auxerre—Avignon.

Bar-le-Duc—Bastia—Bayonne—Beaune—Beauvais—Belfort—Bergerac—Besançon—Beziers—Blois—Bordeaux — Boulogne-sur-Mer — Boulogne-sur-Seine — Bourg — Bourges—Brest—Brive.

Caen—Cahors—Calais-Saint Pierre—Cambrai—Cannes — Carcassonne — Castres — Cette — Chalon-sur-Saône — Chalons-sur-Marne—Chambéry—Charenton—Chartres—Chateauroux — Chatellerault — Chaumont — Cherbourg — Cholet — Clermont-Ferrand — Cognac — Compiègne — Cusset.

Dax — Digne — Dijon — Dole — Douai — Dragnignan — Dunkerque.

Elbeuf-Caudebeck—Epernay—Epinal—Evreux.

Fécamp—Flers—Foix—Fougères—Fourmies.

Gap—Granville—Grasse—Gray—Grenoble—Guéret.

Le Havre—Honfleur—Laon—Laval—Levallois-Perret —Libourne—Lille—Limoges—Lisieux — Lons-le-Saunier —Lorient—Lunéville—Lyon.

Macon—Le Mans—Marseille—Maubeuge—Mazamet—Meaux—Melun—Mende—Mezières-Charleville—Millan—Montargis—Moutauban—Mont-de-Marsan—Montélimar—Montluçon—Montpellier—Montronge—Morlaix—Moulins.

Nancy — Nantes — Narbonne — Neuilly-sur-Seine — Nevers—Nice—Nimes—Niort.

Orléans.

Pantin—Pau—Périgueux—Perpignan—Poitiers—Pontarlier—Pont-Audemer—Privas—Le Puy.

Quimper.

Reims — Rennes — Roanne — Rochefort-sur-Mer — La Rochelle—La Roche-sur-Yon—Rodez—Romans—Bourg-de-Péage—Roubaix—Rouen.

Saint Brieuc—Saint Claude—Saint Denis—Saint Dié —Saint Etienne—Saint Junien—Saint Lô—Saint Malo—

Saint Servan—Saint Nazaire—Saint Omer—Saint Quentin. —Saintes—Salon—Saumur—Sedan—Sens.

Tarbes—Thiers—Thonon—Toulon—Toulouse—Tourcoing—Tours—Troyes—Tulle.

Valence—Valenciennes—Vannes—Verdun—Versailles Vesoul—Vichy—Vienne—Vierzon—Vincennes—Voiron.

THE REICHSBANK
(BERLIN)

was established in 1875, in succession to the Prussian Bank, as a public company with a share capital of £6,000,000, which has been since increased to £7,500,000 (taking £1 = m. 20).

The German Government participates in its profits, and its clerks are considered Government clerks.

The issue of any amount of notes is legal, provided their equivalent in gold is deposited. One-third of the issued notes must be redeemable at any moment, but the uncovered quantity of notes is limited to £23,500,000, and can be increased under payment of a Government tax of 5% p. a. of the excess.

The metallic cover deposited at present for the issue of notes amounts to
£44,000,000 in round figures, the Bank can therefore issue notes for
£23,500,000 more, that is for
£67,500,000 which against the actual note circulation of
£61,000,000 shows a non-issued amount of
£6,500,000 within the legal limit.

Before the creation of the Reichsbank several German banks had the right to issue notes for a limited time, but their number—at present six—is constantly decreasing by expiration of the privileges.

Against the "Kriegsschatz" (war fund) deposited in

Spandau near Berlin, and consisting of £6,000,000 gold coins, the German Government issued £6,000,000 notes (in form of 5, 20 and 50 marks) which circulate under the denomination "Reichs Kassenscheine" (Empire counter notes) and are convertible at any moment at the Reichsbank.

Branches of the Reichsbank are established in the following towns:

Aachen — Alfeld — Allenburg — Allenstein — Alsfeld — Altena — Altenburg — Altona — Anclam — Andernach — Apenrade — Apolda — Arnswalde — Aschaffenburg — Aschersleben — Aue — Auerbach-i-Voigtl — Augsburg.

Backnang — Bamberg — Barmen — Bartenstein — Barth — Bautzen — Bayreuth — Belgard — Bernburg — Beuthen — Biebrich — Bielefeld — Bingen — Bischofsburg — Bocholt — Bochum — Bonn — Brandenburg — Braunsberg — Braunschweig — Bremen — Breslau — Brieg — Bromberg — Bruchsal — Buchholz — Bünde — Bunzlau — Bütow.

Cassel — Celle — Charlottenburg — Chemnitz — Coblenz — Coburg — Cöln — Cörlin — Cöslin — Cöthen — Colmar — Cottbus — Crimmitschau — Culm — Culmsee — Cüstrin.

Danzig — Darmstadt — Demmin — Dessau — Deutsch-Eylau — Deutsch-Krone — Dillenburg — Dirschau — Döbeln — Dortmund — Dresden — Düren — Düsseldorf — Duisburg.

Eberswalde — Eckernförde — Einbeck — Eisenach — Elberfeld — Elbing — Elmshorn — Emden — Erfurt — Eschwege — Eschweiler — Essen — Esslingen — Eupen — Euskirchen.

Finsterwalde — Flensburg — Forst — Frankenthal — Frankfurt-a-M. — Frankfurt-a.d.-O. — Freiberg — Freiburg-i.-Breisgau — Friedberg — Fulda — Fürstenwalde — Fürth.

Geestemünde — Gelnhausen — Gelsenkirchen — Gera — Gerdauen — Gevelsberg — Giessen — M. Gladbach — Glatz — Glauchau — Gleiwitz — Glogau — Schwäb. Gmünd — Gnesen — Goch — Göppingen — Görlitz — Göttingen — Goldap — Gotha — Grätz — Graudenz — Greifswald — Greiz — Grossenhain —

Grünberg — Guben — Gütersloh — Gumbinnen — Gummersbach.

Hadersleben — Hagen — Halberstadt — Halle a. d. S. — Hamburg — Hameln — Hamm — Hanau — Hannover — Harburg — Hattingen — Heide — Heidelberg — Heidenheim — Heilbronn — Helmstedt — Herford — Herne — Hersfeld — Hilden — Hildesheim — Hirschberg i. Schl. — Hof. i. B. — Hohenlimburg — Höhr — Holzminden — Husum.

Inowrazlaw — Insterburg — Iserlohn — Itzehoe.

Jena.

Kaiserslautern — Karlsruhe — Kattowitz — Kaufbeuren — Kempten — Kiel — Kirchen — Kitzingen — Kolberg — Königsberg i. Pr. — Königshütte — Konitz — Konstanz — Kosten — Krefeld — Kreuzburg — Kreuznach — Krotoschin — Kulmbach.

Lahr — Landau — Landeshut i Schl. — Landsberg a. d. W. — Landshut (Bayern) — Langenberg — Lauban — Lauenburg — Lauterbach (Oberhessen) — Leer — Leipzig — Leisnig — Lennep — Liegnitz — Limburg a. d. Lahn — Lindau — Linden v. Hann — Lippstadt — Lissa — Lohr — Lörrach — Luckenwalde — Ludwigshafen — Lübeck — Lüdenscheid — Lüneburg — Lyck.

Magdeburg — Mainz — Mannheim — Marburg — Marienburg — Marienwerder — Markneukirchen — Markt-Redwitz — Meerane — Meiderich — Meiningen — Meissen — Memel — Memmingen — Meseritz — Metz — Minden — Mitweida — Mühlhausen i Thür — Mulhausen i Elsass — Mülheim (Rhein) — Mülheim a. d. Ruhr — München — Münster i W. — Muskau.

Naumburg a. d. S. — Neisse — Neubrandenburg — Neumünster — Neunkirchen — Neuruppin — Neuss — Neustadt a. d. Haardt — Neustettin — Neuwied (Heddesdorf) — Norden — Nordhausen — Nördlingen — Nürnberg.

Oberhausen — Oberlahnstein — Oelsnitz — Offenbach — Offenburg — Ohligs — Olpe — Oppeln — Oschatz — Osnabrück — Osterode am Harz — Osterode in Ostpreussen — Ostrowo.

Paderborn — Passau — Peine — Pforhzeim — Pillkallen —

Pirmasens—Pirna—Plauen—Pleschen—Pössneck—Posen —Potsdam—Prenzlau.

Quedlinburg.

Rastenburg — Ratibor — Ratingen — Ravensburg — Rawitsch—Recklinghausen—Regensburg—Reichenbach i Schl.—Reichenbach i Voigll—Remscheid—Rendsburg—Reutlingen—Rheydt—Riesa—Rosenheim—Rostock—Rottweil—Rüdesheim—Ruhrort.

Saarbrücken — Säckingen — Sagan — Sangerhausen — Schleswig — Schneidemühl — Schwedt — Schweidnitz — Schweinfurt — Schwelm — Schwiebus — Siegen — Soest — Solingen—Sommerfeld — Sonderburg—Sonneberg—Sorau —Speyer—Spremberg—Stallupönen—Stargard i Pomm— Pr. Stargard — Stettin — Stolberg — Stolp — Stralsund — Strassburg i Elsass—Striegau—Stuttgart—Suhl.

Thorn—Tilsit—Tondern—Traben—Triberg—Trier— —Tuttlingen.

Uerdingen—Ulm (Neu Ulm)—Unna.

Velbert—Viersen—Villingen.

Waldenburg i Schl.—Waldheim—Waldkirch—Wehlen —Weimar—Weinheim—Weissenfels—Werdau—Werden — Wermelskirchen — Wesel — Wetzlar — Wiesbaden — Wilhelmshaven — Witten — Wittenberge — Wongrowitz —Worms—Würzburg—Wurzen.

Zabern—Zeitz—Zittau—Zweibrücken—Zwickau.

OESTERREICHISCH-UNGARISCHE BANK

(Vienna)

(Austro-Hungarian Bank).

The "Oesterreichische Nationalbank," established in 1816 as a public company, changed its name into the above in 1878 in consequence of the division of the Monarchy

into Austria and Hungary. Its capital is £8,750,000 (£1 taken as kronen 24).

The last return shows a stock of

gold of £49,000,000 (in round figures),
and of silver of £12,000,000 „ „

£61,000,000

against a note circulation of £70,000,000.

A metallic cover of 87 kronen (70 in gold and 17 in silver) is therefore provided for each note of 100 kronen.

The Government participates in the profits of the Bank, and appoints its Governor and Deputy-Governor.

The Bank is authorized to issue £16,666,666 notes **above** the metallic cover **tax free**, and any note-issue above the limit pays a Government tax of 5% p.a.

Branches of the Oesterreichisch-Ungarische Bank are in the following towns.

Agram—Alt Becse—Arad—Asch—Aussig.

Baja—Balassa-Gyarmat—Békés-Csaba—Beregszasz—Bielitz—Biala—Bistritz—Bjelovar—Böhmisch-Leipa—Bozen—Brasso—Bregenz—Brody—Brünn—Brüx—Buczacz—Budapest—Budweis.

Chrudim—Cilli—Csakathurn—Czegléd—Czernowitz.

Debreczin—Dés—Detta—Deutsch-Bogsán—Drohobicz—Dukla—Dunaföldvár.

Eger—Eperies—Erlau—Essegg.

Feldkirch—Fiume—Fogaras—Friedek—Fünfkirchen.

Gablonz—Görz—Gorlice—Gran—Graslitz—Graz—Grosz-Becskerek—Grosz-Kanizsa—Grosz-Kikinda—Gr-Szt-Miklós—Grosswardein—Gyergyó-Szent-Miklós—Gyöngyös.

Hatzfeld—Hermannstadt—Hódmezö-Vásárhely—Hohenelbe—Hohenmauth.

Iglau—Iglo—Innsbruck.

Jägerndorf — Jaroslau — Jaslo — Jászberény — Jičin — Jungbunzlau.

Kalocsa — Kaposvár — Karánsebes — Karlsbad — Karlstadt — Kaschau — Kecskemét — Keszthely — Kézdi-Vásárhely — Kis-Czell — Kis-várda — Klagenfurt — Klattau — Klausenburg — Königgrätz — Königinhof — Kolin — Kolomea — Komorn — Komotau — Krakau — Krems — Kremsier — Krizevci — Kronstadt.

Laibach — Laun — Leitmeritz — Lemberg — Linz — Lippa — Liptó-Szt-Miklós — Losoncz — Lugos.

Mähr-Ostrau — Mähr-Schönberg — Makó — Marburg — Marmaros-Sziget — Maros-Vásárhely — Medgyes — Meran — Mezötur — Miskolcz — Mitrovitz — Mohacz — Munkács.

Nagy-Enyed — Nagy-Károly — Nagyszalonta — Neubidschow — Neuhäusel — Neunkirchen — Neu-Sandec — Neusatz — Neusohl — Neutitschein — Neutra — Nikolsburg — Nyiregyháza.

Oedenburg — Olmütz — Oravicza — Oroshaza — Orsova.

Pancsova — Pápa — Pardubitz — Pettau — Pilsen — Pisek — Prag — Prerau — Pressburg — Prossnitz — Przemysl.

Raab — Radna — Raudnitz — Reichenberg — Rimaszombat — Riva — Rosenau — Roveredo — Rumburg — Rzeszów.

Saaz — Salzburg — Sanok — Satoraljaujhely — Schässburg — Schan — Schluckenau — Schönlinde — Semlin — Siófok — Sissek — Spalato — Stanislau — Starkenbach — Steinamanger — Strakonitz — Stryj — Stuhlweissenburg — Suczawa — Szabadka — Szász-Regen — Szatmár — Szegedin — Szegszárd — Szentes — Szilágy-Somlyó — Szolnok.

Tabor — Tapoleza — Tarnopol — Tarnów — Taus — Temesvár — Teplitz — Teschen — Tetschen-Bodenbach — Torda — Tirök-Becse — Trautenau — Trebitsch — Trencsin — Trient — Triest — Troppau — Turoczszentmarton — Tyrnau.

Ung.-Altenburg — Ung.-Hradisch — Ung.-Weisskirchen — Ungvár.

Veszprim — Villach — Vinkovec — Vukovar.

Warasdin — Warnsdorf — Werschetz — Wiener-Neu-Stadt — Wieselburg — Wolin.

Zala-Egerzeg — Zara — Zenta-Znaim — Zombor — Zwittau.

THE BANCA D'ITALIA
(ROME)

was established in 1893 by amalgamation of three banks, the Banca Nazionale, Banca Nazionale Toscana and the Banca Toscana di Credito with a capital of £9,600,000 (taking £1 = lire 25) of which ¾ = £7,200,000 are paid up.

The last return gives a metallic cover of £19,000,000 (about), and a note circulation of £34,000,000. A note of lire 100 is therefore covered by metal to the extent of lire 56.

The Bank has branches at the following places :—

Alessandria—Ancona—Aquila—Arezzo—Ascoli Piceno —Asti—Avellino.

Bari — Barletta — Belluno — Benevento — Bergamo— Bologna—Brescia.

Cagliari — Caltanisetta — Campobasso — Carrara — Caserta — Castellamare — Catania — Catanzaro — Chieti— Como—Cosenza—Cremona—Cuneo.

Ferrara—Foggia—Forli.

Girgenti—Grosseto.

Lecce—Lodi—Lucca.

Macerata — Mantova — Massa — Messina — Modena — Montelone-Calabro.

Novara.

Padova—Parma—Pavia—Perugia—Pesaro—Piacenza Pisa—Pistoia—Porto Maurizio—Potenza—Prato (Tuscany).

Ravenna—Reggio-Calabria—Reggio Emilia—Rovigo.

Salerno—Sassari—Savona—Siena—Syracuse—Sondrio —Sora—Spezia.

Taranto—Teramo—Terni—Trapani—Treviso.

Udine.

Vercelli—Verona—Vicenza—Vigevano.

BANQUE DE L'ÉTAT
(ST. PETERSBURG).

This Bank was established in 1860 by the Russian Government, who provided the capital of £5,000,000 (the

rouble taken as 2s.) and all profits therefore go to the Treasury.

The last return states a note circulation of £63,000,000 (in round figures) with a metallic cover of £84,000,000, *i.e.*, for every note of roubles 100 was a metallic cover of roubles $133\frac{1}{3}$ deposited.

The Bank has branches in the following towns:

Archangel—Askabad—Astrakhan.

Baku — Batum — Berdiansk — Bialystok — Blagovechensk—Borisoglebsk—Bokhara.

Dwinsk.

Ekaterinburg — Ekaterinodar — Ekaterinoslaff — Elisabetgrad—Erivan.

Grodno.

Ishim—Irbit—Irkutsk—Ivano-Vosnesensk.

Jitomir.

Kalisz — Kaluga — Kaminietz — Podolski — Kazan — Khabarowa — Kharkoff — Kherson — Kishineff — Kieff — Kokand — Kosloff — Kostroma — Kuiadinsk — Kursk — Kowno—Krasnovodsk—Krementchug—Kresty.

Libau—Lublin—Lodz—Lomzha.

Marinpol — Menselinsk — Minsk — Moghileff — Morshansk—Moscow—Murom.

Nijni Novgorod — Nikolaieff — Nowgorod — Novo Rossiisk.

Odessa—Orel—Crenburg—Orsk.

Penza—Perm—Petrokoff—Petropawlowsk—Piatigorsk—Plock—Poltava—Pskoff.

Radom — Reval — Riazan — Rjew — Riga — Romny — Rowno—Rostoff-o.-D.—Rostoff Yaroslavsky—Rybinsk.

Samarkand—Samara—Sarapul—Saratoff—Sevastopol — Semipalatinsk — Simbirsk — Smolensk — Sumy — Stavropol—Syzran.

Taganrog — Tashkent — Tamboff — Tcheliabinsk —

Tchenstokoff—Tchernigoff—Tchistopol—Tchita—Teodosia—Tiflis—Tumen—Tobolsk—Tomaszew—Tomsk—Tula—Tzaritsyn—Tver.

Ufa—Uralsk.

Verkhni Udinsk — Vilna — Vitebsk — Vladikavka — Vladivostok—Vladimir—Vologda—Voronezh—Vyatka.

Warsaw.

Yalta—Yaroslaw—Yeletz—Yusovo.

NEDERLANDSCHE BANK

(AMSTERDAM).

The Capital of this Bank, which was established in 1814, amounts to £1,666,666 (taking £1 = fl.12).

The last return shows a note circulation of about £19,000,000 against a metallic cover of £10,000,000, of which the amount in gold nearly equals the amount in silver.

The Bank has one branch in Rotterdam, and Agencies in the following towns:

Alkmaar—Almelo—Arnhem—Deventer—Dordrecht—Enschedé—Gravenhage—Groningen—Hertogenbosch—Leeuwarden—Leiden—Maastricht—Meppel—Middelburg—Nijmegen—Tilburg—Utrecht—Zwolle.

BANQUE NATIONALE DE BELGIQUE

(BRUSSELS).

This Bank, established in 1850, has a Capital of only £2,000,000 (taking £1 = francs 25), and a note circulation of about £33,000,000 with a metallic cover of about £4,600,000, that is to say, a note of francs 100 is only covered by a metallic deposit to the extent of about francs 14.

The Bank has one Branch in Antwerp, and the following Agencies:

Alost—Arlon—Ath—Audenarde—Boom—Bruges—Charleroi—Courtrai—Dinant—Eecloo—Furnes—Gand—Grammont—Hasselt—Huy—La Louvière—Liège—Louvain—Malines—Marche—Mons—Namur—Neufchâteau—Nivelles—Ostende—Peruwelz—Philippeville—Renaix—Roulers—Saint Nicolas—Soignies—Termonde—Tirlemont—Tongres—Tournai—Turnhout—Verviers—Wavre—Ypres.

BANCO DE ESPAÑA

(MADRID).

This Bank, established in 1849 and reconstructed in 1896, has a share capital of £6,000,000 (taking £1 = pesetas 25).

The note circulation amounts to £65,000,000 (in round figures) against a metallic cover of £36,000,000, or about 55%. The cover consists of about 40% in gold and 60% in silver.

A short time ago the Bank established a branch in London, and its home branches are in the following towns:

Albacete—Alcoy—Alicante—Almeria—Avilla—Badajoz—Barcelona—Bilbao—Burgos—Caceres—Cadiz—Cartagena—Castellon—Ciudad Real—Cordoba—Coruna—Cuenca—Gerona—Gigon—Granada—Guadalajara—Haro—Huelva—Huesca—Jaen—Jerez—Las Palmas—Leon—Lerida—Linares—Logrono—Lugo—Malaga—Murcia—Orense—Oviedo—Palencia—Palma—Pamplona—Paris—Pontevedra—Reus—Salamanca—San Sebastian—Santa Cruz (Tenerife)—Santander—Santiago—Segovia—Sevilla—Soria—Tarragona—Teruel—Toledo—Tortosa—Valencia—Valladolid—Vigo—Vitoria—Zamora—Zaragoza.

BANCO DE PORTUGAL

(LISBON)

was established in 1847 with a share capital of £2,362,500 (1 milreis taken as 42d.).

The note circulation amounts to about £18,000,000, with a metallic cover of £2,000,000.

The Bank has a branch in Oporto, and Agencies in the following towns:

Angra—Aveiro—Beja—Braga—Bragança—Castello Branco—Coimbra—Evora—Faro—Funchal (Madeira)—Guarda—Horta—Leiria—Porta Delgada (Azores)—Portalegre—Santarem—Vianna—Villa Real—Vizeu.

SCANDINAVIAN BANKS.

(a) Denmark and Norway.

In both these countries the note issue is monopolised. In the first, the **National Bank of Denmark**, founded in 1818 with a capital of £1,500,000, has the sole right to issue notes. The circulating notes without metallic cover may not exceed £1,500,000. In the latter, the **Bank of Norway**, founded in 1814 with a capital of £550,000, is the only note-issuing Bank, and is not allowed to issue notes for more than twice the amount of metal in stock.

(b) Sweden.

The note issue is not centralised. Besides the **Royal Bank of Sweden** several other Banks (the "**Enskilda Banks**") are allowed to issue notes.

The Royal Bank of Sweden was founded in 1656, is therefore older than the Bank of England, and has a capital of about £2,000,000, which belongs to the nation; the amount of non-covered notes is limited to £3,000,000.

The "Enskilda Banks" ("Enskilda" means in Swedish "private") are obliged to deposit 60% of the capital in Government stock, and are allowed to issue notes against it; the total issue is limited to the amount of the capital.

SWISS BANKS.

The issue of notes in Switzerland is not centralised; it is open, subject to certain conditions.

The capital of a note-issuing Bank must be not less than half the amount of notes to be issued; the notes themselves must be covered by a metallic deposit of at least 40%.

The amount of the Bank Capital varies, and is generally provided by the Cantonal Government.

All the note-issuing Swiss Banks have agreed to pay each other's notes.

Notes in Switzerland circulate at present for about £10,000,000, with a metallic cover of £4,000,000.

ASSOCIATED BANKS OF NEW YORK.

The weekly return of these Banks does not give an adequate idea of the economic importance of the United States in general, as it reflects the monetary movements of New York alone.

The United States have no Central Institution possessing the exclusive privilege of issuing notes. The issue of notes, as in Switzerland, is open, subject to certain regulations dating from 1864.

Every Bank established according to these rules (a so-called "National Bank") receives its notes from the Treasury, paying for every $90 notes with $100 United States Government Bonds.

The Government itself issues notes ("Greenbacks") and "gold- and silver-certificates," which are all covered by metal, and declared legal tender.

On January 1, 1904, there were in the United States in circulation mediums of exchange for an amount of **$2,466,327,905**, consisting of:

Gold coins	$ 627,970,551
Gold certificates	$ 421,080,019
Silver dollars	$ 81,573,213
Silver certificates	$ 465,836,290
Subsidiary silver	$ 97,613,352
Treasury notes...	$ 15,828,853
United States notes	$ 343,272,438
National Banks' notes... ...	$ 413,153,189
	$2,466,327,905

The principal business of a United States Bank is the receiving of money on deposit, and its lending on security ("loan").

As great commercial importance is attached to the state of these deposit and loan accounts, they are regularly cabled.

The last return of the **New York Associated Banks** gives the following figures:

Loans for about	£182,000,000	
Deposits ,,	£179,000,000	
Reserves ,,	£ 49,000,000	(in specie and legal tender)

Note circulation about £9,000,000

Every National Bank has to deposit with the Treasury in legal tender-money an amount equal to 5% of the issued notes, and every New York Bank being a member of the "Associated Banks" must keep 25% of the deposits in legal tender-money.

III. ARBITRAGE IN STOCKS AND SHARES.

GENERALLY, all business on the London Stock Exchange is concluded for the coming account day, but bargains for immediate completion may also be entered into ("cash transactions"). The account days are fixed by the Committee of the Stock Exchange beforehand for the whole year. The settlement takes place twice a month, at the middle and end of the month, but the actual interval varies from 14 to 19 days.

Only for Consols, which are dealt in either for "cash" or for the end of the month, is a separate monthly settlement fixed.

The three days preceding every pay day are devoted to preparatory work in connection with the settlement. On the first of the three days all business which was done during the last fortnight in mining shares has to be arranged; on the second day, all bargains in the other shares and stocks entered into during the terminating account have to be adjusted; on the third day, the name of the person paying for the exchanged security is given (and as such names are written on a slip of paper (ticket) the day itself is called "ticket day"), and on the fourth day ("pay day") the actual completion of all bargains—delivery of the security dealt in, and paying of the differences—takes place.

The quotations for Consols and other Government Bonds, railway and other stocks are given in per cent. while the prices of shares are expressed in the actual value of one share.

The quoted prices—unlike those of some Continental

Bourses—**include** all the interest dating from the last coupon payment, except in the case of "**Rupees,**" where the interest from the last dividend payment up to the settling day has to be added to the price.

In calculating the interest from one account to the next the year is taken as 365 days, while the Continental Bourses reckon the year equal to 360 days.

All stocks and shares passing through the Stock Exchange must be duly stamped, such stamp duties being fixed as follows:

1. Securities delivered in form of **Certificate and signed transfer** pay duty of ½%, *i.e.*:

£		£	s.	d.
on 5	a stamp of	0	0	6
10	„	0	1	0
15	„	0	1	6
20	„	0	2	0
100	„	0	10	0
1,000	„	5	0	0

2. Where the foregoing securities are delivered in form of shares or stock to **Bearer,** the stamp duty is three times as much, that is 1½%.

3. Bonds bearing date after 1862 and prior to 1885 pay a stamp duty of 1¼°/₀₀; Bonds bearing date after 1885 1%.

4. American and Foreign Share-Certificates pay 3d. for every £25 (= ½°/₀₀).

5. Transfer of stocks and shares not on sale, and with a nominal consideration amount, say 5s., involve a duty of 10s.

Contract Notes for sale or purchase of securities from £5 to £100 must bear a stamp of 1d.; from £100 upwards to any amount, a stamp of 1s.

Where the face-value of foreign bonds is expressed in foreign money, such foreign money is always converted

into English money at the following **fixed rates of exchange:**

American money	:	5 dollars	equal to £1
Austrian „	:	10 gold florins or 24 kronen	
French „	:	25 francs	
German „	:	20 marks	
Indian „	:	10 rupees	
Italian „	:	25 lire	
Spanish „	:	25 pesetas	

Every stock and share dealt in for the account can be—if convenient—"carried over" to the next account, and the charge for it is either called "**contango**" or "**back.**"

"**Contango**" is the interest on the capital required for taking up the stock, and "carrying it over" to the next account, and is therefore debited to the buyer and credited to the seller. It is expressed either in form of the agreed money rate—as for instance 3% or 4½% p. a. etc.—or at a fixed charge per share (as 6d. or 2s., etc.), as in the case of Grand Trunk Third Preference shares, which were carried over at the price of 45 and a contango of 2s., which corresponds with a yearly interest of $5\frac{1}{3}\%$ (2s. for one account, or 24 × 2s. = 48s. for one year for a capital of £45).

The equivalent expression for contango on the Continental Bourses is "report."

Sometimes a particular stock or share, when more has been sold than can actually be delivered, is in such demand for carrying over that no charge is made for the money required; it is then said that the stock is carried over "**even.**" When the demand for the stock in question is so strong that actually a bonus is offered for its lending, all the accounts of buyers of the said stock can then be carried over at a premium, which is called "**backwarda-**

tion" or "back." The corresponding German term "Leihgeld" (money for the loan of the security) is far more to the point; the French Bourses call the back "déport."

The "back" can also be quoted, like the contango, in percentage of the capital concerned—e.g. 3% p.a., etc.—or as charge for one share—e.g. 6d. per share, etc.

Carry-over bargains are free of brokerage.*

The London Stock Exchange conducts business from 11 to 4 o'clock, and is closed on the following days:

January 1—Good Friday—Easter Monday—May 1—Whit Monday—November 1—December 25 and 26.

Of the provincial Stock Exchanges in Great Britain only the Stock Exchanges of Liverpool and Glasgow are important. The latter deals sometimes largely in Tinto- and Tharsis-shares at advantageous prices for the Arbitrage.

ARBITRAGE IN STOCKS AND SHARES WITH THE PARIS BOURSE.

Admission to the Paris Bourse is free to everybody.

The dealings on the Bourse in stocks and shares quoted in the Official Price List of the Paris Bourse are entrusted solely to the "Compagnie des Agents de Change de Paris," a corporation consisting of 70 members (formerly 60), each of whom is appointed by the Government. Legally the Compagnie is not answerable for the dealings of its individual members, but practically it would always declare itself responsible in case of emergency, thereby rendering the prompt fulfilment of the contracts of each of its members an absolute certainty.

Stocks and shares not included in the "official list" are

* Which varies from $\frac{1}{16}$ to $\frac{1}{2}$ % for stocks, and from 3d. to 2s. 6d. for shares.

dealt with by the "syndicat des banquiers" or "coulissiers," and generally the market of the first named group of securities is termed "Parquet," and the latter "Coulisse."

The "Parquet" (agents de change) settles twice a month—middle and end, the "Coulisse" (coulissiers) only once a month—at the end of the month, but both markets also enter into cash transactions ("opérations au comptant").

French Rentes (like Consols in London) are only quoted for the end of the month. The carry-over of the securities ("reports") takes place on the 15th and 30th, or 31st; the "tickets" pass on the 17th or 1st or 2nd, and the pay day for each account is fixed for the 18th or 2nd or 3rd of each month.*

Every security negotiated on the Paris Bourse must bear the French stamp; **but the shares of Companies having entered into a special agreement with the French Fisc with regard to the stamp duty are exempt.**

In France the compounding of the stamp duty is also called "abonnement," and such an "abonnement" must precede the appearance of any security in the official list. It is obvious **that every share officially quoted must be exempt from stamp duty.**

The Fisc publishes annually a list of companies compounding the stamp duty.

Foreign Government Bonds pay a stamp duty of 1% of the nominal value with a minimum of 1 franc, and when their market value has fallen below 50% of the face value, the stamp is reduced to ½% (*e.g.*, Greek Bonds).

Where the nominal value is expressed in foreign money, such foreign money must be converted into French

* Credit balances of clients are only settled on the day following the account day.

money at a rate of exchange fixed annually. At present these rates are:

£1 = fr. 25.17
Mexican dollar 1 = „ 2.50
Austrian Crown 1 = „ 1.23,

and the stamp has to be paid in French money, according to the calculation.

All other securities pay a stamp duty of 2°/₀ with a minimum of 2 francs; the Capital subject to stamp duty is divided into multiples of 20 francs.

In France, as in some other countries, the dealings are subject to a tax, according to which transactions in:

French Rentes pay 1¼ centimes for each fr. 1,000 Capital dealt in.

Other securities pay 5 centimes for each fr. 1,000 Capital dealt in.

Report-transactions pay half that duty.

All the stocks and shares are quoted as in London —that is, including all accrued interest.

Carry-over bargains (reports) are subject to half the ordinary brokerage, and are generally done at the average rate ("cours moyen").

The most active securities of the London Stock Exchange quoted likewise on the Paris Bourse are:

Rio Tinto—some of the South African Mining Shares—Banque Ottomane—Lombards—Suez Canal Shares, and the following Government Bonds: Austrian Gold—Hungarian Gold—Argentine—Brazil, 1889—French 3%—Italian 5%—Spanish 4%—Turkish New Unified—Egyptian—Greek, 1881, and 1884—English Consols—Portuguese—Serbian 4%, and Uruguay 3½%.

The Paris Bourse is open from 12 to 3 o'clock.

RIO TINTO.

This leading copper share, in London called shortly "Tinto," and in Paris "Rio," is one of the favourites of the Paris Bourse. Large transactions take place daily in it. The shares are quoted in francs per share, their parity with London consequently being easy to find.

For instance, the Paris quotation of francs 1,256 divided by the present cheque price of 25.20 gives the London par of £49.84, which result can also be obtained by the following method:

Supposing the cheque price was 25, we should then have $\frac{1256}{25}$ or $\frac{1256 \times 4}{100}$ = £50.24; but as the cheque price is 25.20, and as 0.20 = 25 × 0.8, we have to subtract the product of 50.24 × 0.8 = 0.40 from 50.24 = 49.84.

As Tintos are quoted in the official list, there is no stamp for delivery to pay, the brokerage of $\frac{1}{8}$% would amount to fr. 1.57 per share
and the Government tax of 5 cents. per
1,000 frs. to „ 0.07,
the expenses per share would be frs. 1.64

BANQUE OTTOMANE.

These shares have a nominal value of fr. 500, but only fr. 250 are called up.

The French quotation of shares with uncalled capital is given, as if they were fully paid, and their actual value is equal to the price less the uncalled capital.

The present quotation of Ottoman Bank shares of 607 is therefore equal to 607 − 250 = fr. 357 at 25.20 = £14.166.

Brokerage $\frac{1}{8}$% = fr. 0.76, Government tax = 0.05, expenses per share therefore = fr. 0.81.

LOMBARD SHARES—AND SUEZ CANAL SHARES.

The parity of these shares is to be calculated on the basis of the cheque price plus or minus expenses, according to purchase or sale.

SOUTH AFRICAN AND AUSTRALIAN SHARES.

The stamp on shares of Companies which have not compounded the stamp duty is 2 francs; this must be taken into consideration in calculating the parity, which can be ascertained in the same manner as that of Lombard shares (see above).

The following Companies:

Buffelsdoorn
Champ d'Or
Charterland Goldfields
Cons. Goldfields
„ Main Reef
East Rand Prop.
Ferreira Gold
Frank Smith
French Rand
Geduld Prop.
Geldenhuis Deep
„ Estate
Goch New
Goerz & Co.
Golden Horse Shoe Est.
Johannesburg Consol.
Kleinfontein New
Lancaster
„ West
May Cons.
Oceana
Rand Mines
Robinson South African Banking Co.
„ Deep
„ Randfontein
Roodepoort Central Deep
Rose Deep
Simmer & Jack (New)
South Afr. Gold Trust
Steyn New
Transvaal Goldfields
Village Main Reef
Wemmer

have entered into an agreement with the French Fisc with regard to the stamp duty, their shares therefore circulate unstamped.

FRENCH 3% RENTES.

These are dealt in in the rent (annuity) amount, so that a bargain of fr. 3,000 Rente is equal to a transaction in fr. 100,000 capital, and a business in £4,000 French Rente in London would correspond with an operation in fr. 3,000 Rente in Paris.

The value of the coupons is deducted on the Bourse a fortnight before the coupons fall due, viz.: December 15, March 15, June 15, and September 15.

SPANISH 4%. (SEALED).

In Paris these bonds are commonly called "Exterieure"—bonds of the exterior debt of Spain—and only sealed ones ("titres estampillés") are negotiated as in London.

The loan itself was issued in 1882 for the conversion of the old 3% debt in bonds of 100, 200, 1,000, 2,000, 4,000, 6,000, 12,000, and 24,000 pesetas.

These amounts were converted into French money at the rate of

$$\text{fr. } 1 = \text{p. } 1$$

and into English money at the rate of

$$£1 = \text{p. } 25.20$$

A bond of p. 24,000 was therefore taken as equal to a bond of £952 6s. Each of the bonds can be sold for cash, while time bargains in them are limited to a minimum of:

p. 50,000 capital (p. 2,000 rente) in Paris, and to

p. 24,000 capital (£952 6s.) in London,

which latter amount is also called "one stock."

A Paris transaction in **p. 4,000 rente** is therefore equal to a London bargain of

p. 100,000 capital = p. 96,000 + p. 4,000
= 4 × (£952 6s.) + £158 14s. 4d.
= 4 English stock + £158 14s. 4d.
= £3,809 4s. 0d.
+ £ 158 14s. 4d.
= **£3,967 18s. 4d.**

To find the English stock-amounts corresponding with the French stock-amounts quickly, the following table is generally used:

4% SPANISH BONDS.

French Amount.				English Amounts.							
Fr.	£	s.	d.	£	s.	d.		£	s.	d.	
1,000 Rente	991	19	7	952	6	0	1	39	13	7	½
2,000	1,983	19	2	1,904	12	0	2	79	7	2	1
3,000	2,975	18	9	2,856	18	0	3	119	0	9	1½
4,000	3,967	18	4	3,809	4	0	4	158	14	4	2
5,000	4,959	17	11	4,761	10	0	5	198	7	11	2½
6,000	5,951	17	6	5,713	16	0	6	238	1	6	3
7,000	6,943	17	1	6,666	2	0	7	277	15	1	3½
8,000	7,935	16	8	7,618	8	0	8	317	8	8	4
9,000	8,927	16	3	8,570	14	0	9	357	2	3	4½
10,000	9,919	15	10	9,523	0	0	10	396	15	10	5
11,000	10,911	15	5	10,475	6	0	11	436	9	5	5½
12,000	11,903	15	0	11,427	12	0	12	476	3	0	6

Under the supposition that "one stock" (p. 24,000) is taken equal to 1 shilling-stock a bond of p. 1,000 is called a "halfpenny stock," as $\frac{1}{2}$d. = $\frac{1}{24}$s.

According to that expression p. 4,000 Rentes would be equal to stock of the denomination 4s. 2d.

A Paris quotation of 89 at a cheque price of 25.20 would

therefore correspond with the London quotation 89 × $\frac{25.20}{25.20}$ = 89 × 1 = 89,

or in general, as the nominal value of the bonds is expressed in pesetas and in English money at the fixed rate of £1 = p. 25.20, we find

London Parity = Paris Price × $\frac{25.20}{\text{cheque price}}$.

Brokerage ½°/₀₀, stamp for delivery 1%.

Small bonds are always in great demand (on the Cash-market), and quote from 1 to 4% premium.

ENGLISH CONSOLS.

Sometimes small dealings take place in them for cash ("au comptant"). The fixed exchange rate is £1 = fr. 25 20, so that a cheque price of 25.20 makes the Paris price equal to the London price.

A higher cheque price, for instance 25.25, would necessitate the subtraction of 2°/₀₀ (25.25 — 25.20 = 0.05 = 2°/₀₀) from the Paris quotation; a lower cheque price, say for instance 25.15, would require the addition of 2°/₀₀ (25.20 — 25.15 = 0.05 = 2°/₀₀) to the Paris price in order to establish the parity.

Brokerage ½°/₀₀, French stamp 1%.

4°/₀ BRAZIL, 1889.

Fixed rate of exchange: £1 = 25.20, and for the calculation of the parity we refer to the remarks about English Consols.

The value of the coupons is deducted from the price on April 3 and October 3.

EGYPTIAN STOCK.

While in former years these stocks formed the bulk of the transactions on the Paris and London Stock Exchange, they are to-day scarcely mentioned in either of these markets. Their parity is to be calculated on the basis of the cheque price.

ITALIAN 5% BONDS.

In Paris Italians are dealt in in rent amounts of lire 2,500, which corresponds therefore with a capital amount of lire 50,000, and makes the London quantity of £2,000 equal to the Paris quantity of lire 2,500.

As the value of the lire is fixed

in London at £1 = lire 25, and
in Paris „ fr. 1 = lire 1,

the calculation of the parity is simple enough.

The price of **103.80 in Paris** at a cheque price of 25.20 would be equal to 103.80 — 103.80 × 0.8% (as 25.20 = 25 + (25 × 0.8%)) = 103.80 — 0.83 = **102.97 in London.**

Brokerage ½‰, stamp 1%.

4% AUSTRIAN AND 4% HUNGARIAN GOLD RENTES.

The nominal value of these bonds is expressed in gold florins of the old Austrian-Hungarian currency.

Their fixed exchange rate being:

In Paris gold florin 1 = fr. 2.50
In London gold florins 10 = £1,

the parity is therefore to be calculated at the cheque price (like Italian bonds).

The dealings in Paris take place in multiples of florins 400 rente = fl. 10,000 capital, so that £4,000 stock in London is equal to fl. 1,600 rente in Paris.

Brokerage ½ °/₀₀, stamp 1%.

NEW 4% UNIFIED TURKISH STOCK.

This new stock is quoted in per cent. for obligations of fr. 500 (20 francs rente), and fr. 2,500 (100 francs rente).

At the price of 89, the former would cost fr. 445, the latter fr. 2,225.

The parity is to be calculated at the cheque price like the parity of Italian, Egyptian bonds, etc.

ARGENTINE BONDS.

Comparatively speaking very few of these stocks are known in Paris, and even in these few, business is rarely done.

Their parity is easily calculated on the basis of the cheque price.

Sometimes transactions take place in the 5% loan of 1886, quoting fr. 516 (for the fr. 500 obligation), and in the 4% Rescission loan of 1896, quoting in per cent. (81.50). A £100 bond of the latter would cost **£81.5** (at the fixed rate of exchange £1 = fr. 25) = fr. 2037.50, which amount at the cheque price of 25.20 (for instance) would be equal to £80 17s.

GREEKS.

Few cash-transactions take place in the loans of 1881 and 1884 ("Hellénique"), which are quoted in francs for obligations of fr. 500.

The parity is to be calculated at the cheque price.

PORTUGUESE.

All three series of the new 3% stock are quoted, but transactions take place only in the obligations of the first series, which are of a nominal value of £20 and £100.

The price is quoted in per cent., and the fixed rate of exchange is **25.25.**

£100 stock at a price of 65, for instance, would therefore cost at a cheque price of 25.20: £65 × $\frac{25.25}{25.20}$ = £65.13, which result can also be obtained by the following method: 25.25 — 25.20 = 0.05 = 2°/₀₀, which of 65 = 0.13, therefore parity 65.13.

SERVIAN BONDS.

The price is in per cent., the obligations are issued for fr. 500 capital (francs 20 rente) fr. 2,500, capital (fr. 100 rente), and fr. 5,000 capital (fr. 200 rente).

URUGUAY 3½%.

Obligations for £20 and £100, price in per cent.

Fixed rate of exchange 25.25.

The parity is therefore to be calculated like that of Portuguese Bonds.

Of the provincial Bourses in France only the **Bourse of Lyons** is important.

The dealings there—between 11 and 12.30—are after the model of the Paris Bourse, and stock-positions open in Lyons can always be made up with the Paris Bourse free of charge.

ARBITRAGE WITH BRUSSELS.

The business concluded on the Brussels Bourse is either for cash or for account, which takes place twice a month, 15th and 30th.

The securities, with few exceptions, are dealt in as in London and Paris, including accrued interest, and the quotations are given for bonds in per cent., and for shares at the actual value of the shares.

The fixed rate of exchange for converting the nominal value of securities expressed in foreign money into Belgian money are the following:

£1 = fr. 25 for Turkish stock
£1 = „ 25.20 for Russians, Brazils and Uruguays
mark 1 = „ 1.25
$ 1 = „ 5.40
Austr. fl. 1 = „ 2.50

At present the mutual securities, which are dealt in in London and Brussels are: Rio Tintos—Brazil 4% — Portuguese 3% —and Turkish Unified.

Rio Tinto-shares settle only once a month (on the 30th).

Spanish 4% bonds which are quoted in Brussels are not "sealed" bonds, and their price has therefore only theoretical interest.

Brokerages are the same as on the Paris Bourse, and the dealings take place between 12 and 3 o'clock.

ARBITRAGE WITH THE BERLIN BOURSE.

Every merchant is allowed to frequent the Berlin Bourse subject to conditions easy to comply with.

The regular visitors are divided into bankers, dealers, and brokers. The Bourse Committee appoints some

brokers as "sworn brokers," whose duty it is to quote officially the prices of the various stocks, shares, foreign bills and moneys.

The dealings are for cash or for monthly settlement, the option day is generally fixed for the 28th (option time 1 o'clock), the carrying-over day for the 28th, and the pay day for the 30th or 31st.

The stocks and shares are quoted ex accrued interest, which therefore has to be added to the price, as for instance, the price of German 3% Rente is given 91.50; that means marks 91.50 for every marks 100 stock, **plus** 3% interest on 100 from the last coupon payment (January 1 or July 1) up to the account-day in question.

The practice of dealing with securities ex accrued interest makes it necessary to bring the actual dividend into harmony with the quotation, that is in case the actual dividend differs from the calculated interest, such difference ("**coupon difference**") has, after the payment of the dividend, to be considered in the price, *i.e.*, has to be added to, or subtracted from it.

Where the nominal value of a security is expressed in foreign money, such foreign money has to be converted into German money at the following fixed exchange rates:

£1	=	m.	20.40
United States	$1 =	„	4.20
Rouble	1 =	„	2.16
Old gold rouble	1 =	„	3.20
Old credit „	1 =	„	2.16
Old Austrian paper florin	1 =	„	1.70
„ gold „	1 =	„	2—
New Austrian krone ...	1 =	„	0.85
Dutch florin	1 =	„	1.70
Franc, lire or peseta ...	1 =	„	0.80
Scandinavian krone ...	1 =	„	1.12½
Peso	1 =	..	4—

The Arbitrage with the Berlin Bourse is at present handicapped on account of the heavy German stamp duties, which have been fixed as follows:

$2\frac{1}{2}\%$ for foreign Shares (2% for inland shares)
1% „ „ Obligations
$6^{\circ}/_{oo}$ „ „ Government Bonds,

besides, there is a tax to pay on every transaction, amounting to $\frac{2}{10}^{\circ}/_{oo}$ for Government Bonds and foreign money (coins and Bank Notes), and $3^{\circ}/_{oo}$ for shares.

A material reduction of these heavy stamps and fees may soon be expected.

The brokerage for shares is 20 pf. per share, and for bonds $\frac{1}{2}^{\circ}/_{oo}$.

The business hours of the Berlin Stock Exchange are from 12 to 3 o'clock.

GERMAN 3%.

The quotation **91.50** End December corresponds with

$$\begin{array}{rr} & 91.50 + 3\% \text{ int. on } 100 \\ \text{for 6 months at } 0.25 = & 1.50 \\ \hline & \text{m } 93 — \end{array}$$

and by the following equations:

$$\begin{aligned} £\, x &= £100 \text{ stock} \\ 100 &= 2{,}000 \text{ marks} \\ 100 &= 93 \text{ m. (price)} \\ \text{(cheque price) } 20.46 &= £1 \\ x &= \tfrac{93}{1.023} = 90.91, \end{aligned}$$

we find the London parity **90.91.**

In case of stock-delivery, no stamp duty has to be calculated, as the Bonds are exempt from such German stamp-duty.

ITALIAN 5%.

The quotation of **103.50** End December =

103.50
\+ 2 — (4% int. on 100 for 6 m.)
lire 105.50

and the following chain:

£ x = £100 stock
100 = 2,500 lire
100 = 105.5 (price)
100 = 80 pf.
(cheque price) 2046 = 1

$$x = \frac{105.50}{1.023} = 103.13$$

gives as London parity **103.13.**

In case of stock delivery, a stamp duty of 0.60 has to be taken into consideration.

Berlin quotes Italian Rentes in lire capital, so that lire 250,000 stock corresponds with £10,000 stock in London.

CHINESE 6% GOLD, 1895.

The quotation of **104.40** End December
= 104.40
\+ 3 — (6% int. on 100 for 6 m.)
107.40

at the fixed rate of exchange £1 = m. 20.40, and a cheque price of 20.46 give the following chain:

London £ x = 107.40 £ Berlin
1 = 20.40 fixed
20.46 = £1 London

x = **107.08**

or difference 20.40/20.46 = 0.06 = 3°/₀₀, and 107.40 less 3°/₀₀ = 107.40 − 0.32 = **107.08.**

In case of stock-delivery, a stamp duty of 0.60 has to be taken into consideration.

CHINESE 4½°/₀ OF 1898.

The Berlin quotation **91** for these bonds for account End December would at a cheque price of 20.44 correspond with:

	91 —	
+	1.50	(4 months' int. 4½% from
	92.50	Sept. 1 to Dec. 30)

92.50 × $\frac{20.40 \text{ fixed}}{20.44 \text{ cheque}}$ = **92.31 bare parity.**

(Instead of doing the multiplication and division, we take the difference between 20.44 and 20.40 = 4 pf. = 2°/₀₀, which on 92.50 = 0.19, and 92.50 − 0.19 = 92.31 gives the parity.)

In case of a sale and actual delivery of the stock, the expenses would amount to:

0.60 for stamp
0.05 „ brokerage
0.02 „ tax

0.67 which deducted from 92.31 show **91.64** as parity for a sale;
in case of a purchase, we have to add the expenses for

brokerage = 0.05
tax = 0.02

0.07 to the price of 92.31 = 92.38, and find **92.38** as parity for a purchase.

RUSSIAN BONDS.

Some years ago English investors held a great number of these bonds, which have since been sold on the Continent. Some bonds of the loan of 1889 (1st and 2nd series) still remain in the boxes of English capitalists, but these have no quotation on the Berlin Bourse, though they are sometimes dealt in on the London Stock Exchange. Berlin deals principally in bonds of the loan of 1902, which are likewise 4% bonds, but their interest is payable half-yearly, while the coupons of the 1889 loan are paid quarterly. In comparing the prices of the two loans, this difference of interest must be taken into account.

MEXICAN 5°/₀ 1889.

The quotation of 101.50 End December is equal to:

101.50
\+ 1.25 (3 months int. on 100 at 5%, from Oct. 1-Dec. 31)
102.75

$$\text{parity} = \frac{102\,75 \times 20.4 \text{ (fixed)}}{20.46 \text{ (cheque)}} = 102.44$$

or, difference 20.40/20.46 = 6 pf. = 3°/₀₀ and 102.75 less 3°/₀₀ = 102.75 − 0.31 = **102.44.**

SPANISH 4°/₀.

These bonds are not "sealed" bonds, and therefore no good delivery in London. Their parity has consequently only theoretical interest.

NEW 4% TURKISH UNIFIED.

The Berlin quotation of **88** End December at a cheque price of 20.46 corresponds with a London parity of:

88 + 1.33 (interest from Sept. 1—Dec. 31 = 4 m. at 0.33 per month) = 89.33 × $\frac{20.40\text{ (fixed)}}{20.46\text{ (cheque)}}$ = **89.06, or,** difference 20.40 / 20.46 = 6 pf. = 3‰, and 89.33 minus 3‰ = 89.33 − 0.27 = **89.06.**

SOUTH AUSTRIAN RAILWAY SHARES.

(LOMBARDS).

The shares of a nominal value of m. 400 are quoted in per cent. (for 100 marks), and **the price of 18 End December** is therefore equal to

18
+ 4 (4% int. on 100 for 1 year, from Jan. 1-
m. 22 Dec. 31) or marks 88 for marks 400,

which in English money at 20.46 would be $\frac{88}{20.46}$ = **£3 13s.**

CANADIAN PACIFIC RAILWAY SHARES.

These shares are quoted in United States dollars per share ex 4% interest from July 1 at the fixed exchange rate of $1 = m. 4.20.

The Berlin quotation of **120** End December is therefore equal to:

$$\begin{array}{rl} & 120 \\ + & 2\ (4\%\ \text{of}\ 100\ \text{for}\ 6\ \text{m. at}\ 0.33) \\ \hline & 122 \end{array}$$

and the following chain:

$$\begin{array}{rl} \$\ \text{London}\ x & = 122\ \$\ \text{Berlin} \\ 1 & = \text{m. } 4.20 \\ (\text{cheque})\ 20.46 & = £1 \\ 1 & = 5\ \$\ \text{London} \end{array}$$

gives the London parity of **125.21**

As the expenses (stamp + tax + brokerage) amount to nearly $3, the Arbitrage could only sell in Berlin when the shares in London could be bought $3 below parity.

Experience has taught that the London price of Canadian Pacific shares reaches Berlin quicker viâ New York than by the direct route, and some Arbitragists therefore prefer to cable accordingly.

Of the provincial German Bourses only those of Hamburg and Frankfort-o-M. are important. The dealings there are after the model of the Berlin Bourse.

ARBITRAGE WITH AMSTERDAM.

Amsterdam quotes all securities, with few exceptions, **exclusive** of interest, like Berlin. Amongst the exceptions are the shares of American Railways, for which the price is given **inclusive** of accrued interest. All transactions are for **cash.**

The **fixed rates of exchange** for converting foreign money into Dutch money are:

£1	= fl. 12 —
1 German mark	= „ 0.60
1 American dollar	= „ 2.50
1 gold rouble	= „ 2 —
1 paper rouble	= „ 0.36
1 franc or 1 lira or 1 peseta or 1 Austrian krone	= „ 0.50
1 Austrian florin	= „ 1 —
1 Austrian gold florin	= „ 1.20
1 rouble	= „ 1.28
1 Portuguese milreis	= „ 2.70

As example for the parity calculation of **American Railway shares,** we take the price of **Union Pacific shares 78¼.**

London \$ x = 78.25 \$ Amsterdam (share price)
1 = 2.50 fl.
(cheque price) 12.0625 = £1
1 = 5 \$ London

$$x = \frac{78.25 \times 5 \times 2.50}{12.0625} = \frac{78.25 \times 5}{12.0625 \times 4} = \frac{782.5}{12.0625 \times 8}$$

$$= 81.09$$

We see from this calculation that the parity of American Railway shares can be found by dividing ten times the price by 8 times the cheque price.

As example for the parity-calculation of **bonds** we take the price of 3% Portuguese first series = $63\frac{11}{16}$.

The interest of such bonds is reckoned at 3% on 100 from either January 1 or July 1. In the account of a purchase on December 30, for instance, interest for six months would appear from July 1 up to December 30 with 1.50.

The price to be calculated would be $63\frac{11}{16}$ = 63.68
+ 1.50
65.18

and by the following equations:

London £ x = £100 stock
100 = £65.18 Amsterdam price
1 = 12f.
(cheque price) 12.0625 = £1 London

we find $x = 65.18 \times \frac{12}{12.0625} =$ **64.84.**

Brokerage $\frac{1}{16} - \frac{1}{8}\%$.

Business hours of the Amsterdam Bourse, 1 to 3 o'clock.

ARBITRAGE WITH VIENNA.

Vienna quotes, like Berlin and Amsterdam, all bonds and shares (with very few exceptions) **exclusive** of accrued interest, which has therefore to be added to the price in finding the parity. All securities are dealt in for cash, with the exception of a few, for which a quotation for account at the end of the month is also given.

Bonds are quoted in per cent., shares per actual share-value.

The **fixed rates of exchange** for converting foreign money and the old Austrian money into the present kronen-money are:

£1	= 24 kronen
1 German mark	= 1 krone 18 heller
1 franc or lira	= 96 heller
1 old Austr. gold florin	= 2 k. 40 h.
1 „ „ florin	= 2 k.

The Government tax for transactions in:

Bonds is 40 heller per 10,000 kronen
Shares is 1 krone „ „

As example for the parity-calculation, we take the price of **Austrian 4% Gold Rente = 120.75.**

The 4% interest on 100 from the last coupon (either October 1 or April 1) has to be added. In an account for a purchase effected on December 30, 4% interest for 3 months (October 1—December 30) with 1% would have to appear; the price to be calculated would therefore be 120.75 plus 1 = 121.75, and by the following chain:

London £ x = £100 stock
100 = 1,000 gold fl.
50 fixed = 121.75 kr.
(cheque price) 239.55 = £10

$$x = 121.75 \times \frac{2}{2.3955} = \mathbf{101.66}$$

SOUTH AUSTRIAN RAILWAY SHARES.

(LOMBARDS).

These shares are amongst the few which are quoted **inclusive** of accrued interest; their price **(88 kronen)** divided by the cheque price therefore shows the parity.

$$\text{Parity} = \frac{88}{23.955} = £3.67 = \mathbf{£3\,^{11}_{16}}$$

ANGLO-AUSTRIAN BANK SHARES.

The interest on these shares is calculated at 5% p. a. on 240 kronen (the nominal value of the shares) from January 1 up to the date of delivery. In an account for a purchase effected on December 30, for instance, the interest would appear with $\frac{5 \times 240}{100} = 12$ kronen.

To the Vienna price of 282 the interest of 12 kronen has to be added, which would give 294 kronen, or at a cheque price of 23.955 a parity of $\frac{294}{23.955} = \mathbf{£12.27.}$

Brokerage $\frac{1}{2}$°/$_{00}$. Business hours of the Vienna Bourse 12 to 2 o'clock.

ARBITRAGE WITH NEW YORK.

Only proprietors of "seats" are admitted to the New York Stock Exchange. A seat, becoming vacant through death or resignation of its owner, is sold by public auction. Its price depends upon the general prosperity, and has been already as high as $80,000.

All bargains on the New York Stock Exchange are for "cash," the stock dealt in has therefore to be paid for the following day, which rule sometimes causes great changes in the weekly returns of the Associated New York Banks.

The stocks and shares are quoted **inclusive** of all accrued interest—as in London and Paris—the stocks in dollars per cent., the shares in dollars per share; their parity is therefore easy to establish.

For instance. The New York quotation of **Atchison** shares **68** corresponds with the London price of **70¼** at a cable transfer price of **4.84**, according to the following chain:

$$\begin{aligned} \text{London } \$\, x &= 68\ \$ \text{ New York} \\ 4.84 &= £1 \\ 1 &= 20\text{s.} \\ 4 &= 1\ \$ \text{ London} \end{aligned}$$

or in general, the London parity is equal to: ten times the New York price divided by twice the cable transfer price.

To avoid the division, we may apply the following method:

Supposing the cable transfer price should be $5, then the New York share price would be exactly equal to the London price, as according to the above formula, we shall then have:

$$\text{London parity} = \frac{10 \times \text{New York price.}}{2 \times 5},$$
$$= \text{New York price.}$$

Consequently, we may take the cable transfer price of $5 as calculation basis, subtract from it the actual rate of telegraphic transfer, and find the part of the share price corresponding with the exchange-difference. The New York share price plus that part will then give the parity.

For instance, In the above example, New York price for Atchison shares 68 and 4.84 for cable transfer, we have:

$$5 - 4.84 = 0.16 = 3.2\% \text{ of } 5, \text{ and}$$
$$3.2\% \text{ of } 68 = 2.18.$$

The London parity of the New York quotation **68** would then be $68 + 2.18 =$ **70.18.**

The London parity of a New York price **68** with a simultaneous telegraphic transfer rate **4.875** would be **69.70**, according to the following calculation:

$$5 - 4.875 = 0.125 = 2\tfrac{1}{2}\% \text{ of } 5, \text{ and}$$
$$2\tfrac{1}{2}\% \text{ of } 68 = 1.70, \text{ and } 68 + 1.70 = 69.70.$$

To find the New York parity of a given London price, say, for instance, of Erie shares quoting **30** in London

at a simultaneous exchange of 4.84, we employ the following equations:

$$\begin{aligned} \text{New York \$ } x &= 30 \text{ \$ London} \\ 1 &= 4\text{s.} \\ 20 &= £1 \\ 1 &= 4.84 \\ x &= \frac{30 \times 4 \times 4.84}{20} = \frac{30 \times 4 \times 5 \times 4.84}{100} \\ &= \frac{30 \times 2 \times 4.84}{10} \\ &= \mathbf{29.04} \end{aligned}$$

or in general: **the New York parity of a London price is equal to the tenth part of the London price multiplied by twice the cable-transfer-price.**

Brokerage $\frac{1}{2}{}^{0}/_{00}$; business hours of the New York Stock Exchange 10 to 4 o'clock.

The New York Stock Exchange is closed on the following days: January 1—February 22 (Washington's birthday)—Good Friday—May 30th (Decoration day)—July 4th (Independence day)—first Tuesday in November (Election day)—last Thursday in November (Thanksgiving day)—and December 25.

ARBITRAGE IN RUPEE-PAPER.

This stock is the **only security** dealt in on the London Stock Exchange **exclusive of accrued interest,** which is calculated at $3\frac{1}{2}\%$ on the nominal value of 100 rupees from June 30 or December 30 up to the date of delivery. The rupee-amount is converted into English money at the fixed rate of **1 rupee = 2s.**

Calcutta and Bombay quote the stock like London, exclusive of accrued interest.

1. Supposing the Indian price End December were $98\frac{3}{8}$, and the exchange 1s. $4\frac{1}{16}$d., we should have

price 98.375 plus $3\frac{1}{2}$% for 6 months (June 30—December 30) = 1.75

100.125, and the following equations :—

$$
\begin{aligned}
\text{London (price + int.) } x &= 100.125 \text{ rupees} \\
1 &= \text{1s. } 4\tfrac{1}{16} \ (16\tfrac{1}{16}\text{d.}) \\
24 &= 1 \text{ rupee London} \\
x &= 67.01 \\
- \text{ int.} &= 1.75 \\
\textbf{London parity} &= \textbf{65.26}
\end{aligned}
$$

2. Supposing the London price for the End December account was **66**, and the Indian exchange as before 1s. $4\frac{1}{16}$d., we should find the Indian parity according to the following chain :—

$$
\begin{aligned}
\text{Indian (price + int.) } x &= 67.75 \ (66 + 1.75) \text{ rupees} \\
1 &= 2\text{s.} \\
1 &= 12\text{d.} \\
16\tfrac{1}{16} &= 1 \text{ rupee} \\
x &= 101.23 \\
- \text{ int.} &\quad 1.75 \\
\textbf{Indian parity} &= \textbf{99.48}
\end{aligned}
$$

The **Colonial Stock Exchanges** (Johannesburg, Adelaide, Melbourne, etc.) quote all the shares dealt in as London, in English money. Arbitrage-transactions between London and these Stock Exchanges therefore do not require comment; a simple subtraction of the London price from the Colonial gives the difference.

For practical business purposes we give the following

TIME COMPARISON TABLE,

showing the **difference of time** of the various commercial centres **against London time:**

		H.	M.	
Amsterdam	time is	0	20	earlier
Athens	„	1	35	„
Berlin	„	0	54	„
Bombay	„	4	51½	„
Brussels	„	0	18	„
Buenos Ayres	„	3	53	later
Calcutta	„	5	54	earlier
Constantinople	„	1	56	„
Copenhagen	„	0	50	„
Frankfort-o-M.	„	0	35	„
Hamburg	„	0	40	„
Hong-Kong	„	7	37	„
Johannesburg	„	2	—	„
Lisbon	„	0	37	later
Madrid	„	0	14	„
Melbourne	„	9	40	earlier
Mexico	„	6	36	later
New York	„	4	55	„
Paris	„	0	10	earlier
Rio de Janeiro	„	2	52	later
Rome	„	0	50	earlier
St. Petersburg	„	2	01	„
Shanghai	„	8	06	„
Sydney	„	10	05	„
Valparaiso	„	4	46	later
Vienna	„	1	06	earlier
Yokohama	„	9	19	„

IV. ARBITRAGE IN OPTIONS.

ANY person wishing to take a practical interest in the probable development of the price of a certain stock or share within a specified time, and desiring to limit his liability to a fixed sum, may do so by buying an "option."

The value of an "option" is therefore more or less arbitrary; one dealer might quote the same option cheaper than another, and an option-dealing between the London Stock Exchange and a foreign Stock Exchange might in consequence become at times a well-paying speciality.

If an operator foresees the rise of a special security, he naturally takes the same view as the person ("Bull,") who buys the stock right out ("firm"). He would consequently acquire an option which gives him the right to become a buyer of the security in question, that is to say, to take up or to "call" a determined quantity of stocks or shares at a fixed price within the agreed period. For this right he would be prepared to sacrifice a fixed sum of money, similar to a premium, limiting his possible loss to that premium. The purchase of a "**call-option**" (named shortly "**call**") would give him this satisfaction.

Where the operator believes to the contrary, in the fall of a certain security, he has naturally the same intentions as the person ("Bear") who has sold the same security right out (firm). He would then acquire an option, which would give him the right to be placed in the position of a seller of firm stock, that is, to deliver (to "put") a determined quantity of stocks or shares at a fixed price within

a certain period. He would be willing to risk a certain sum of money—but no more—for that purpose; he can attain his object by buying a "put-option," or as it is likewise termed by "giving for the put."

Both transactions combined would involve the right "to put" and the right "to call," and would represent a "double option" or a "put and call option"—shortly also named "put and call" or "pac" (after the first letters of the words: put and call).

Every option becomes due previous to the account it is dealt for; the declaration of options in mining shares (with some exceptions, amongst which appear Rio Tintos) has to take place at 12.45 on the carrying-over day fixed for mining shares (first day of each account), and the declaration of options in any other share or stock has been fixed at 12.45 of the carrying-over day devoted to this group of securities (second account-day).

In the following pages we propose to show the connection between the three kinds of options already mentioned, and may remark in passing that on the London Stock Exchange the payment of the option money becomes due two days after the declaration of the option, while on several of the Continental Bourses the option money has to be paid immediately after the conclusion of the bargain.

CALL.

The following example may serve as illustration:

At the End of November Rio Tinto shares quoted 48, and the call option, or shortly "call" for the End of December-account £1, that is to say, we should have to pay £100 for the call of 100 Tintos at 48. At any time between End November and End December the payment

of £100 would secure us the right to take up (to "call") 100 Tintos at 48. As the End December account was fixed for December 30, the option became due on December 28, at 12.45, and as at that time Tintos quoted 50, we declared to exercise our right of calling 100 shares at 48.

We sold then 100 Tintos at 50, and had the following result:

Purchase of call 100 Tintos at 48 at £1	= £100	
Bought 100 Tintos by "call" at 48	= £4,800	
	£4,900	to our debit
Sold 100 Tintos at 50 . . .	= £5,000	,, credit
Profit or **balance** of . .	£100	,, credit,

from which amount the brokerage for the purchase of the option and the sale of the shares must be deducted.

In case Tintos should have been quoted on December 28 below 48, say 40, we should then have abandoned the call, and the option-money of £100 would have been forfeited.

The example shows that dealings by options are sometimes preferable to dealings in "firm stock." If we had operated in "firm stock" (bought right out) at 48 and sold at 40, we should have lost on 100 Tintos £800, while the method of dealing by option limited the loss to £100.

The example of "giving £1 for the call (buying the call) of 100 Tintos at 48 End December" can be expressed differently.

If we exercise our right on December 28, each of the shares would cost £48 + 1 = **£49.**

In case we abandon the option, we should have to pay

the option money of £1 per share, which would be the limited risk of the business.

This way of putting the matter is the Continental way of quoting calls, and the business in question in the foreign style would be: Option-purchase of 100 Tintos at 49 of which 1 is the option money, or, as it is expressed in Paris, 49/1, and pronounced "49 dont 1."

On the Paris Bourse an option is named "prime," and is in fact nothing else but a "call."

PUT.

Options to deliver stocks and shares ("puts") are not quoted in Paris.

But as every "put" can be derived from a "call," the absence of any direct put-quotation is not of much importance.

Every call combined with a sale of the quantity of stock under option results in a put option, as for instance:

£1—call 100 Tintos 48—End December
and sale 100 ,, 48 ,, } **= Put**
100 Tintos at 47 End December, at the option money of £1,

because:

(*a*) if the price rises, we cover our sale with the option.

(*b*) if the price falls, we abandon the option, and remain a seller, covering the sale with the purchase of firm stock.

In case of (*a*) we have sold at 48 and
bought by option ,, 48,
and limited the loss to the option money of £1 per share.

In case of (*b*). Supposing the price falls during the time we are protected by the option to 42, we would then buy 100 Tintos at 42, making thereby a profit of **£6** per share (48 — 42), and would abandon the option for

which we pay **£1** per share,

and the result of the transaction would be a

profit of **£5** per share,

brokerages not taken into consideration.

Every "put" can be transformed into a "call" by buying the quantity under option, as for instance:

Put 100 Tintos at 48 End December at £1
and purchase 100 „ 48 End December } =
Call 100 Tintos at 48 at £1 End December.

because:

(a) **if the price rises,** we abandon the put, and sell the bought 100 Tintos. Supposing we sell at 53, we should make a profit on 100 Tintos from

48/53 = £500,

and should pay the cost of the abandoned option 100,

leaving a balance in our favour of £400

(b) **if the price falls,** we deliver the right-out-purchased 100 Tintos by way of the option, i.e.,

we buy 100 Tintos at 48—and
we sell 100 „ 48,

paying the option money of £100.

PUT AND CALL.

These options give the right to put, and the right to call; they involve therefore two options, the option to deliver and the option to call, and are therefore also called "double option."

As the price of a call theoretically is equal to the price of a put, the price of a put and call ("pac") is the double of a single option.

Every "pac" can be produced by a call of double the quantity and the sale of the same quantity of stock under option, thus:

Call 100 Tintos 48 End December at £1
and sale 50 ,, 48 End December } **= Pac**

50 Tintos 48 at £2,

because:

(a) **In case the shares fall,** we abandon the call, paying £100, which is equal to a difference of £2 per share on 50 shares. The shares which we sold at 48 would then appear to have been sold at 48 − 2 = **46.**

(b) **In case the shares rise,** we should exercise the call of 100 shares, of which 50 would cover our sale at 48, and the remaining 50 could be sold in the market at option-time, if not already sold previously. On the first 50 shares we lose £50 (49 − 48 = £1 per share) which would render the price of the second 50 shares £1 dearer per share, that is, 49 + 1 = **50.**

The two operations combined would result in our being a

seller of 50 Tintos at 46 and a
buyer ,, 50 ,, 50,

a result which we should have likewise obtained by the purchase of a "pac" of 50 Tintos at 48 at £2 for End of December.

Shares sold by that pac would fetch 48 − 2 = 46, and
Shares bought ,, ,, cost 48 + 2 = 50.

Every "pac" can be produced by a "put" of

double the quantity and the purchase of the quantity of stock under option, viz.:

Put 100 Tintos 48 End December at £1
and purchase 50 ,, 48 End December } = **Pac**
50 Tintos 48 at £2,

because:

(a) **In case the shares fall,** we exercise the put, compensate the purchased 50 shares with 50 of the option, and have still 50 shares open to deliver. We put at 48 − 1 = 47, so that the shares purchased at 48 show a loss of £1 per share. The balance of 50 shares would have to make good the loss of £1 per share, and would therefore only fetch 47 − 1 = **46.**

(b) **In case the shares rise,** we abandon the put, paying £100. The purchased 50 shares would then cost 48 + 2 = **50** per share.

Both eventualities are expressed with the two prices 46 and 50, which is the same as a "pac" of £2 at the basis of 48 (46 and 50).

Every "pac" therefore can also be expressed by the two prices, which would appear in case of exercising the put or the call.

This particular form of quoting a double option is used on Continental Bourses, and is there called a "**stellage.**" The word means "fixing," and is adapted for expressing the two prices within which the double option is fixed (as in the above case between 46 and 50). The difference between the two prices (£4)—in Germany called "**stellgeld**" ("money for fixing") or "**spannung**" ("distance") —corresponds with the double "pac" money. The middle between the two limits would be 48, which is also called the "middle" or the "basis" of the stellage.

Put and calls on the New York Stock Exchange are called "**straddles**" and stellages "**spreads.**"

CALL OF MORE OPTIONS.

This is an option business combined with a purchase of firm stock; it is therefore not a pure option, as it involves a transaction with firm stock, and is therefore subject to an unlimited risk, while a pure option fixes beforehand the possible loss.

For instance:

100 Tintos at $48\frac{2}{3}$ for call of more End December means: **the purchase of 100 Tintos FIRM at $48\frac{2}{3}$ End December, to which is attached the OPTIONAL calling of 100 Tintos at $48\frac{2}{3}$ End December.**

End December we **must** take 100 Tintos at $48\frac{2}{3}$, and have the option to call another 100 shares at the same price.

The quotation of $48\frac{2}{3}$ would correspond with the actual Tinto price of 48, **as the price of a "call of more" option is the third part of the "pac" money,** which in the present case was £2.

A call of more option is produced by the purchase of a "pac" for half the stock of the call of more option plus the purchase of one-and-a-half the quantity of the stock under option.

E.g. The above call of more option would appear through the purchase of a "pac" of 50 Tintos at $48\frac{2}{3}$ at £2, End December, and the purchase of 150 Tintos firm at 48.

Because:

(a) **In case of a fall,** we should deliver by the "pac" 50 shares at $48\frac{2}{3} - 2 = 46\frac{2}{3}$, for which we should receive £2333.33

keeping over 100 shares. As we have to pay for the purchase of 150 Tintos at 48 7200 —

We should have to find £4866.67

for 100 Tintos, **or,** £$48\frac{2}{3}$ for every share.

(b) In case of a rise of the shares, we should call by the "pac" 50 shares at $48\frac{2}{3} + 2 = 50\frac{2}{3}$ and pay for them £2533.33;
for the purchased 150 shares at 48, we have to pay 7200 —,
and should have to take up 200 shares for £9733.33
or at the price of $48\frac{2}{3}$ per share.

PUT OF MORE OPTIONS.

The reverse transaction of a call of more bargain would be the put of more option.

Its value is equal to the call of more option-value, *i.e.*, one-third of the "pac" price.

The parity price of a put of more option, with a "pac" quoting £2, would be $\frac{2}{3}$, and would therefore be $47\frac{1}{3}$ at the "pac" basis of 48.

A similar calculation to the one given above would lead to the price of $47\frac{1}{3}$, but it must be borne in mind that a put of more option in 100 shares is the product of a purchase of the "pac" of 50 shares combined with the sale of 150 shares firm.

Other combinations of "pacs" and firm stock would lead to the call or the put of twice more, three times more, four times more, etc., but such transactions occur very rarely on the London Stock Exchange.

OPTIONS ON THE PARIS BOURSE.

Of all the various option-forms dealt in on the London Stock Exchange, the Paris Bourse knows only the ordinary "prime" (call) and the "stellage" (pac), which was

introduced there only a very short time ago, and which is sometimes used for Tintos.

As already stated the "prime" is expressed in form of the call price and the option-money. Basing on the before-mentioned example, where £1 was paid for the call of Tintos at 48, the Paris quotation would be 48 + 1 = 49/1.

But the ordinary prime business in Paris is of far greater importance than all the various kinds of option business in London put together.

The reason for it is the following: London quotes but one price for the single option (in the above-given example £1) while Paris deals in calls with different option-money, as fr. 2.50—fr. 5—fr. 10—fr. 20 and fr. 40, and it is obvious that these manifold kinds of risks must increase the number of transactions.

Taking £1 = fr. 25, the parity of the London option: "**£1 call 100 Tintos, 48 End December**" would be fr. 25 call 100 Tintos fr. 1,200 End December, or expressed in the French quotation **100 Tintos 1,225/25 End December.**

The difference between 1,200 (actual price) and 1,225 (price by option) is called the "**écart**" (distance), and it is clear that the longer the écart the cheaper the option-money must be. The option-money at a price of 1,240 (at the actual price of 1,200) must be less than the sum of money to be paid for an option at the basis of 1,200. We could find such an option on the Paris market "dont fr. 10," and at the basis of 1,250 the option-money would be still less than fr. 10.

This manner of dealing naturally makes the market very elastic.

Sometimes there are considerable differences in the valuation of Tinto options between the London and the Paris markets, which offer excellent scope for the Arbitrage.

But it must be remembered, that the option days in Paris are generally later than those fixed for the corresponding account in London, which rule is in favour of the purchase of options in Paris and their simultaneous sale in London, while an option sale in Paris and its covering in London could only be contemplated when the declaration in Paris precedes the declaration in London. (For instance, that we sold an option in Paris for the End December settlement which we replaced advantageously in London by an option for the Mid-January account).

Options on the Paris Bourse have to be declared on option day, the day before the report day, at 1.30 ("réponse des primes.")

OPTIONS ON THE BERLIN BOURSE.

The Berlin Bourse deals in all the various option forms practised on the London Stock Exchange, only their denominations are differently expressed.

The call option is called "Vorpraemie."
„ put „ „ „ "Rückpraemie.
„ pac „ „ „ "Stellage."
„ call of more „ "Nochgeschäft auf nehmen."
„ put of more „ "Nochgeschäft auf geben."

The following example will explain the origin of these names:

On December 2, Italian Rentes quoted in Berlin 103.50 for End December, and the single option for the same period ½%, *i.e.*, a call was dealt in at ½% at the price of 103.50, and a put was dealt in at ½% at the price of 103.50.

An exercised call would have brought the stock price to 103.50 + 0.50 = 104,

an exercised put would have fetched for the bonds 103.50 − 0.50 = 103.

In the case of the call, the price (104) increases, in the case of the put, the price (103) decreases.

This is the meaning of the German expressions:

Vorpraemie = option with increasing (**advancing**) price.

Rückpraemie = option with decreasing price, or with a price going **back**.

Nochgeschäft = business with "more" stock or shares, and as "nehmen" is in our case synonymous with "calling," and "geben" with "putting," the term does not require further explanation.

The example:

"½% call £10,000 Italians 103½ End December,"

transformed into a Berlin quotation would be:

"Vorpraemie lire 250,000 Italians 104/½ End December;"

while the Berlin equivalent of the example:

"½% put £10,000 Italians 103½ End December,"

would be:

"Rückpraemie lire 250,000 Italians 103/½ End December."

London and Berlin have at the present time very few mutual stocks or shares with a lively option dealing.

The only shares offering an occasional opportunity for Option-Arbitrage are Canadian Pacific shares.

But the present London quotation of $2 for the single option for four weeks does not show any margin against the Berlin quotation of the stellage at $8 for the same period; besides, the heavy German stamp duty on Canadian Pacific shares acts already as a great impediment to Arbitrage-transactions.

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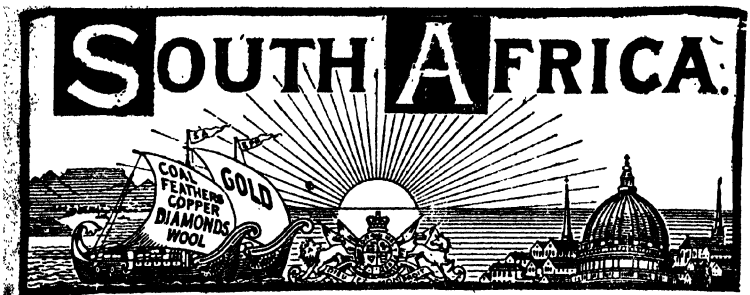

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